

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:SSPTACAB1621

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

\*\*\*\*\* Welcome to STN International \*\*\*\*\*

```

NEWS 1          Web Page for STN Seminar Schedule - N. America
NEWS 2 DEC 01    ChemPort single article sales feature unavailable
NEWS 3 JUN 01    CAS REGISTRY Source of Registration (SR) searching
                  enhanced on STN
NEWS 4 JUN 26    NUTRACEUT and PHARMAML no longer updated
NEWS 5 JUN 29    IMSCOPROFILE now reloaded monthly
NEWS 6 JUN 29    EPFULL adds Simultaneous Left and Right Truncation
                  (SLART) to AB, MCLM, and TI fields
NEWS 7 JUL 09    PATDPAFULL adds Simultaneous Left and Right
                  Truncation (SLART) to AB, CLM, MCLM, and TI fields
NEWS 8 JUL 14    USGENE enhances coverage of patent sequence location
                  (PSL) data
NEWS 9 JUL 27    CA/Caplus enhanced with new citing references
NEWS 10 JUL 16   GBFULL adds patent backfile data to 1855
NEWS 11 JUL 21   USGENE adds bibliographic and sequence information
NEWS 12 JUL 28   EPFULL adds first-page images and applicant-cited
                  references
NEWS 13 JUL 28   INPADOCDB and INPAFAMDB add Russian legal status data
NEWS 14 AUG 08   Improve STN by completing a survey and be entered to
                  win a gift card
NEWS 15 AUG 10   Time limit for inactive STN sessions doubles to 40
                  minutes

NEWS EXPRESS MAY 26 09 CURRENT WINDOWS VERSION IS V8.4,
                  AND CURRENT DISCOVER FILE IS DATED 06 APRIL 2009.

NEWS HOURS      STN Operating Hours Plus Help Desk Availability
NEWS LOGIN      Welcome Banner and News Items

```

Enter NEWS followed by the item number or name to see news on that specific topic.

All use of STN is subject to the provisions of the STN customer agreement. This agreement limits use to scientific research. Use for software development or design, implementation of commercial gateways, or use of CAS and STN data in the building of commercial products is prohibited and may result in loss of user privileges and other penalties.

```

*****
*
* Please take a couple of minutes to complete our short survey. Your *
* name will be entered to win one of five $20 Amazon.com gift cards. *
*
* See NEWS 14 for details or go directly to the survey at:
* http://www.zoomerang.com/Survey/?p=WEB229H4S8Q5UL
*

```

\*  
\*\*\*\*\*

\* \* \* \* \* STN Columbus \* \* \* \* \*

FILE 'HOME' ENTERED AT 13:12:34 ON 12 AUG 2009

=> file caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.22

0.22

FILE 'CAPLUS' ENTERED AT 13:12:49 ON 12 AUG 2009

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2009 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 12 Aug 2009 VOL 151 ISS 7

FILE LAST UPDATED: 11 Aug 2009 (20090811/ED)

REVISED CLASS FIELDS (/NCL) LAST RELOADED: Jun 2009

USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Jun 2009

Caplus now includes complete International Patent Classification (IPC) reclassification data for the second quarter of 2009.

CAS Information Use Policies apply and are available at:

<http://www.cas.org/legal/infopolicy.html>

This file contains CAS Registry Numbers for easy and accurate substance identification.

The ALL, BIB, MAX, and STD display formats in the CA/Caplus family of databases have been updated to include new citing references information. This enhancement may impact record import into database management software. For additional information, refer to NEWS 9.

=> s US20080242900/pn

L1 1 US20080242900/PN

=> d

L1 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2005:811729 CAPLUS

DN 143:213353

TI Two-stage nitration method for producing dinitrotoluene from toluene

IN Buettner, Johannes; MacKenroth, Wolfgang; Hermann, Heinrich; Konieczny, Peter; Gebauer, Juergen

PA BASF Aktiengesellschaft, Germany

SO PCT Int. Appl., 23 pp.

CODEN: PIXXD2  
 DT Patent  
 LA German  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005075407	A1	20050818	WO 2005-EP1017	20050202
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
	RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	DE 102004005913	A1	20050825	DE 2004-102004005913	20040205
	EP 1713756	A1	20061025	EP 2005-701305	20050202
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS			
	CN 1918109	A	20070221	CN 2005-80004228	20050202
	BR 2005007293	A	20070703	BR 2005-7293	20050202
	JP 2007520512	T	20070726	JP 2006-551789	20050202
	US 20080242900	A1	20081002	US 2006-586683	20060720 <---
	ZA 2006007374	A	20080625	ZA 2006-7374	20060904
	KR 2006130203	A	20061218	KR 2006-718074	20060905
	IN 2006CN03216	A	20070706	IN 2006-CN3216	20060905
PRAI	DE 2004-102004005913	A	20040205		
	WO 2005-EP1017	W	20050202		
OS	CASREACT 143:213353				
OSC.G	1	THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)			
RE.CNT	4	THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD			
		ALL CITATIONS AVAILABLE IN THE RE FORMAT			

=> file reg  
 COST IN U.S. DOLLARS  
 FULL ESTIMATED COST

SINCE FILE ENTRY	TOTAL SESSION
3.99	4.21

FILE 'REGISTRY' ENTERED AT 13:13:10 ON 12 AUG 2009  
 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
 PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
 COPYRIGHT (C) 2009 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 11 AUG 2009 HIGHEST RN 1173975-63-7  
 DICTIONARY FILE UPDATES: 11 AUG 2009 HIGHEST RN 1173975-63-7

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 9, 2009.

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of

experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stdoc/properties.html>

```
=> tra 11 1- rn
L2      TRANSFER L1 1- RN :      8 TERMS
L3      8 L2
```

```
=> d 13
```

```
L3  ANSWER 1 OF 8  REGISTRY  COPYRIGHT 2009 ACS on STN
RN   25321-14-6  REGISTRY
ED   Entered STN:  16 Nov 1984
CN   Benzene, methyl dinitro-  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   Toluene, ar,ar-dinitro- (8CI)
OTHER NAMES:
CN   Dinitrophenylmethane
CN   Dinitrotoluene
CN   Dinitrotoluol
CN   DNT
CN   Methyl dinitrobenzene
DR   29656-15-3
MF   C7 H6 N2 O4
CI   IDS, COM
LC   STN Files:  AGRICOLA, ANABSTR, BIOSIS, BIOTECHNO, CA, CABA, CAPLUS,
                CASREACT, CBNB, CHEMCATS, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB,
                DETHERM*, EMBASE, HSDB*, IFICDB, IFIPAT, IFIUDB, MEDLINE, MSDS-OHS,
                PIRA, PROMT, RTECS*, TOXCENTER, TULSA, ULIDAT, USPAT2, USPATFULL,
                USPATOLD
                (*File contains numerically searchable property data)
Other Sources:  DSL**, EINECS**, TSCA**
                (**Enter CHEMLIST File for up-to-date regulatory information)
```



D1-Me

2 [ D1-NO<sub>2</sub> ]

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

```
1137 REFERENCES IN FILE CA (1907 TO DATE)
    19 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1142 REFERENCES IN FILE CAPLUS (1907 TO DATE)
```

```
=> d 13 1-
YOU HAVE REQUESTED DATA FROM 8 ANSWERS - CONTINUE? Y/(N):y
```

L3 ANSWER 1 OF 8 REGISTRY COPYRIGHT 2009 ACS on STN  
 RN 25321-14-6 REGISTRY  
 ED Entered STN: 16 Nov 1984  
 CN Benzene, methylidinitro- (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN Toluene, ar,ar-dinitro- (8CI)  
 OTHER NAMES:  
 CN Dinitrophenylmethane  
 CN Dinitrotoluene  
 CN Dinitrotoluol  
 CN DNT  
 CN Methylidinitrobenzene  
 DR 29656-15-3  
 MF C7 H6 N2 O4  
 CI IDS, COM  
 LC STN Files: AGRICOLA, ANABSTR, BIOSIS, BIOTECHNO, CA, CABA, CAPLUS,  
 CASREACT, CBNB, CHEMCATS, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB,  
 DETHERM\*, EMBASE, HSDB\*, IFICDB, IFIPAT, IFIUDB, MEDLINE, MSDS-OHS,  
 PIRA, PROMT, RTECS\*, TOXCENTER, TULSA, ULIDAT, USPAT2, USPATFULL,  
 USPATOLD  
 (\*File contains numerically searchable property data)  
 Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*  
 (\*\*Enter CHEMLIST File for up-to-date regulatory information)



D1-Me

2 [ D1-NO<sub>2</sub> ]

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1137 REFERENCES IN FILE CA (1907 TO DATE)  
 19 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 1142 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 2 OF 8 REGISTRY COPYRIGHT 2009 ACS on STN  
 RN 7732-18-5 REGISTRY  
 ED Entered STN: 16 Nov 1984  
 CN Water (CA INDEX NAME)  
 OTHER NAMES:  
 CN Aquafina  
 CN Distilled water  
 CN DRiWATER  
 CN Hydrogen oxide (H2O)  
 CN NSC 147337  
 CN R 718  
 CN Spa  
 CN Ultrex II Ultrapure

DR 558440-22-5, 558440-53-2  
 MF H2 O  
 CI COM  
 LC STN Files: ANABSTR, BIOSIS, BIOTECHNO, CA, CABA, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CSCHEM, CSNB, DETHERM\*, EMBASE, GMELIN\*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK\*, MSDS-OHS, PIRA, PROMT, RTECS\*, SPECINFO, TOXCENTER, ULIDAT, USPAT2, USPATFULL  
 (\*File contains numerically searchable property data)  
 Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*  
 (\*\*Enter CHEMLIST File for up-to-date regulatory information)

H<sub>2</sub>O

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

439590 REFERENCES IN FILE CA (1907 TO DATE)  
 1547 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 441011 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 3 OF 8 REGISTRY COPYRIGHT 2009 ACS on STN

RN 7697-37-2 REGISTRY

ED Entered STN: 16 Nov 1984

CN Nitric acid (CA INDEX NAME)

OTHER NAMES:

CN Aqua fortis

CN Azotic acid

CN Fumic acid

CN Hydrogen nitrate

CN Nital

CN Nitric acid (HONO2)

CN Nitryl hydroxide

CN NSC 147791

CN NSC 15203

DR 802862-59-5, 1053657-18-3, 78989-43-2, 218625-70-8

MF H N O3

CI COM

LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BIOSIS, BIOTECHNO, CA, CABA, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM\*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN\*, HSDB\*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK\*, MSDS-OHS, PIRA, PROMT, PS, RTECS\*, TOXCENTER, TULSA, ULIDAT, USAN, USPAT2, USPATFULL, VETU  
 (\*File contains numerically searchable property data)

Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

66579 REFERENCES IN FILE CA (1907 TO DATE)  
 2412 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 66859 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 4 OF 8 REGISTRY COPYRIGHT 2009 ACS on STN  
 RN 7664-93-9 REGISTRY  
 ED Entered STN: 16 Nov 1984  
 CN Sulfuric acid (CA INDEX NAME)  
 OTHER NAMES:  
 CN BOV  
 CN Brimstone acid  
 CN Contact acid  
 CN Dihydrogen sulfate  
 CN Dipping acid  
 CN NSC 248648  
 CN NSC 38965  
 CN Oil of vitriol  
 CN Ridolene 123  
 CN Sulphuric acid  
 CN Vitriol brown oil  
 DR 127529-01-5, 119540-51-1, 140623-70-7  
 MF H2 O4 S  
 CI COM  
 LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BIOSIS, BIOTECHNO, CA, CABA, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM\*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPAT, ENCOMPAT2, GMELIN\*, HSDB\*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK\*, MSDS-OHS, PIRA, PROMT, RTECS\*, SPECINFO, TOXCENTER, TULSA, ULIDAT, USAN, USPAT2, USPATFULL  
 (\*File contains numerically searchable property data)  
 Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*  
 (\*\*Enter CHEMLIST File for up-to-date regulatory information)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

130341 REFERENCES IN FILE CA (1907 TO DATE)  
 5882 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 130875 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 5 OF 8 REGISTRY COPYRIGHT 2009 ACS on STN  
 RN 1321-12-6 REGISTRY  
 ED Entered STN: 16 Nov 1984  
 CN Benzene, methylnitro- (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN Toluene, ar-nitro- (8CI)  
 OTHER NAMES:  
 CN Methylnitrobenzene  
 CN Mononitrotoluene  
 CN Nitrophenylmethane  
 CN Nitrotoluene  
 MF C7 H7 N O2  
 CI IDS, COM  
 LC STN Files: AGRICOLA, BIOSIS, BIOTECHNO, CA, CAPLUS, CASREACT, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DETHERM\*, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPAT, ENCOMPAT2, HSDB\*, IFICDB, IFIPAT, IFIUDB, MEDLINE, MSDS-OHS,

PROMT, RTECS\*, TOXCENTER, TULSA, USPAT2, USPATFULL, USPATOLD  
(\*File contains numerically searchable property data)  
Other Sources: EINECS\*\*  
(\*\*Enter CHEMLIST File for up-to-date regulatory information)



D1-Me

D1-NO<sub>2</sub>

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

584 REFERENCES IN FILE CA (1907 TO DATE)  
13 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
586 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 6 OF 8 REGISTRY COPYRIGHT 2009 ACS on STN

RN 606-20-2 REGISTRY

ED Entered STN: 16 Nov 1984

CN Benzene, 2-methyl-1,3-dinitro- (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Toluene, 2,6-dinitro- (8CI)

OTHER NAMES:

CN 1-Methyl-2,6-dinitrobenzene

CN 2,6-Dinitrotoluene

CN 2,6-DNT

CN 2-Methyl-1,3-dinitrobenzene

MF C7 H6 N2 O4

CI COM

LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN\*, BIOSIS, BIOTECHNO, CA, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DETHERM\*, EMBASE, HSDB\*, IFICDB, IFIPAT, IFIUDB, MEDLINE, MSDS-OHS, PIRA, PROMT, RTECS\*, SPECINFO, TOXCENTER, ULIDAT, USPAT2, USPATFULL, USPATOLD

(\*File contains numerically searchable property data)

Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)

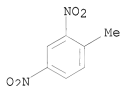


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*



1613 REFERENCES IN FILE CA (1907 TO DATE)  
21 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
1621 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 7 OF 8 REGISTRY COPYRIGHT 2009 ACS on STN  
RN 121-14-2 REGISTRY  
ED Entered STN: 16 Nov 1984  
CN Benzene, 1-methyl-2,4-dinitro- (CA INDEX NAME)  
OTHER CA INDEX NAMES:  
CN Toluene, 2,4-dinitro- (8CI)  
OTHER NAMES:  
CN 1-Methyl-2,4-dinitrobenzene  
CN 2,4-Dinitrotoluene  
CN 2,4-DNT  
CN 4-Methyl-1,3-dinitrobenzene  
CN 6-Methyl-1,3-dinitrobenzene  
CN NSC 7194  
MF C7 H6 N2 O4  
CI COM  
LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN\*, BIOSIS, BIOTECHNO, CA, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DETHERM\*, EMBASE, GMELIN\*, HSDB\*, IFICDB, IFIPAT, IFIUDB, MEDLINE, MSDS-OHS, PIRA, PROMT, RTECS\*, SPECINFO, TOXCENTER, ULIDAT, USPAT2, USPATFULL, USPATOLD  
(\*File contains numerically searchable property data)  
Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*  
(\*\*Enter CHEMLIST File for up-to-date regulatory information)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

3327 REFERENCES IN FILE CA (1907 TO DATE)  
37 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
3338 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 8 OF 8 REGISTRY COPYRIGHT 2009 ACS on STN  
RN 108-88-3 REGISTRY  
ED Entered STN: 16 Nov 1984  
CN Benzene, methyl- (CA INDEX NAME)  
OTHER CA INDEX NAMES:  
CN Toluene (8CI)  
OTHER NAMES:  
CN 1-Methylbenzene  
CN Antisal 1a  
CN CP 25  
CN CP 25 (solvent)  
CN Methacide  
CN Methylbenzene  
CN Methylbenzol  
CN NSC 406333  
CN Phenylmethane  
CN Toluol  
DR 1053657-77-4

MF C7 H8  
 CI COM  
 LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN\*, BIOSIS, BIOTECHNO, CA, CABA, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSChem, CSNB, DDFU, DETHERM\*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPAT, ENCOMPAT2, GMELIN\*, HSDB\*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK\*, MSDS-OHS, NAPRALERT, PIRA, PROMT, PS, RTECS\*, SPECINFO, SYNTHLINE, TOXCENTER, TULSA, ULIDAT, USPAT2, USPATFULL, VETU  
 (\*File contains numerically searchable property data)  
 Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*  
 (\*\*Enter CHEMLIST File for up-to-date regulatory information)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

103723 REFERENCES IN FILE CA (1907 TO DATE)  
 1029 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 104117 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> file caplus  
 COST IN U.S. DOLLARS  
 FULL ESTIMATED COST

SINCE FILE	TOTAL
ENTRY	SESSION
20.85	40.64

FILE 'CAPLUS' ENTERED AT 13:16:12 ON 12 AUG 2009  
 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
 PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
 COPYRIGHT (C) 2009 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 12 Aug 2009 VOL 151 ISS 7  
 FILE LAST UPDATED: 11 Aug 2009 (20090811/ED)  
 REVISED CLASS FIELDS (/NCL) LAST RELOADED: Jun 2009  
 USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Jun 2009

CAPLUS now includes complete International Patent Classification (IPC) reclassification data for the second quarter of 2009.

CAS Information Use Policies apply and are available at:

<http://www.cas.org/legal/infopolicy.html>

This file contains CAS Registry Numbers for easy and accurate

substance identification.

The ALL, BIB, MAX, and STD display formats in the CA/CAPLUS family of databases have been updated to include new citing references information. This enhancement may impact record import into database management software. For additional information, refer to NEWS 9.

=> file reg		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	0.50	41.14

FILE 'REGISTRY' ENTERED AT 13:16:19 ON 12 AUG 2009  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
COPYRIGHT (C) 2009 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 11 AUG 2009 HIGHEST RN 1173975-63-7  
DICTIONARY FILE UPDATES: 11 AUG 2009 HIGHEST RN 1173975-63-7

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 9, 2009.

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stndoc/properties.html>

=> d his

(FILE 'HOME' ENTERED AT 13:12:34 ON 12 AUG 2009)

L1 FILE 'CAPLUS' ENTERED AT 13:12:49 ON 12 AUG 2009  
1 S US20080242900/PN

FILE 'REGISTRY' ENTERED AT 13:13:10 ON 12 AUG 2009

L2 FILE 'CAPLUS' ENTERED AT 13:13:18 ON 12 AUG 2009  
TRA L1 1- RN : 8 TERMS

L3 FILE 'REGISTRY' ENTERED AT 13:13:18 ON 12 AUG 2009  
8 SEA L2

FILE 'CAPLUS' ENTERED AT 13:16:12 ON 12 AUG 2009

FILE 'REGISTRY' ENTERED AT 13:16:19 ON 12 AUG 2009

=> s 121-14-3

L4 0 121-14-3

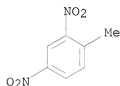
=> s 121-14-2

L5 1 121-14-2

(121-14-2/RN)

=> d

L5 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2009 ACS on STN  
RN 121-14-2 REGISTRY  
ED Entered STN: 16 Nov 1984  
CN Benzene, 1-methyl-2,4-dinitro- (CA INDEX NAME)  
OTHER CA INDEX NAMES:  
CN Toluene, 2,4-dinitro- (8CI)  
OTHER NAMES:  
CN 1-Methyl-2,4-dinitrobenzene  
CN 2,4-Dinitrotoluene  
CN 2,4-DNT  
CN 4-Methyl-1,3-dinitrobenzene  
CN 6-Methyl-1,3-dinitrobenzene  
CN NSC 7194  
MF C7 H6 N2 O4  
CI COM  
LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN\*, BIOSIS, BIOTECHNO, CA, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DETHERM\*, EMBASE, GMELIN\*, HSDB\*, IFICDB, IFIPAT, IFIUDB, MEDLINE, MSDS-OHS, PIRA, PROMT, RTECS\*, SPECINFO, TOXCENTER, ULIDAT, USPAT2, USPATFULL, USPATOLD  
(\*File contains numerically searchable property data)  
Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*  
(\*\*Enter CHEMLIST File for up-to-date regulatory information)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

3327 REFERENCES IN FILE CA (1907 TO DATE)  
37 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
3338 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> s 606-20-2  
L6 1 606-20-2  
(606-20-2/RN)

=> d

L6 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2009 ACS on STN  
RN 606-20-2 REGISTRY  
ED Entered STN: 16 Nov 1984  
CN Benzene, 2-methyl-1,3-dinitro- (CA INDEX NAME)  
OTHER CA INDEX NAMES:  
CN Toluene, 2,6-dinitro- (8CI)  
OTHER NAMES:  
CN 1-Methyl-2,6-dinitrobenzene  
CN 2,6-Dinitrotoluene  
CN 2,6-DNT  
CN 2-Methyl-1,3-dinitrobenzene

MF C7 H6 N2 O4  
 CI COM  
 LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN\*, BIOSIS, BIOTECHNO, CA, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DETHERM\*, EMBASE, HSDB\*, IFICDB, IFIPAT, IFIUDB, MEDLINE, MSDS-OHS, PIRA, PROMT, RTECS\*, SPECINFO, TOXCENTER, ULIDAT, USPAT2, USPATFULL, USPATOLD  
 (\*File contains numerically searchable property data)  
 Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*  
 (\*\*Enter CHEMLIST File for up-to-date regulatory information)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1613 REFERENCES IN FILE CA (1907 TO DATE)  
 21 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 1621 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> s 25321-14-6  
 L7 1 25321-14-6  
 (25321-14-6/RN)

=> d

L7 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2009 ACS on STN  
 RN 25321-14-6 REGISTRY  
 ED Entered STN: 16 Nov 1984  
 CN Benzene, methyl dinitro- (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN Toluene, ar,ar-dinitro- (8CI)  
 OTHER NAMES:  
 CN Dinitrophenylmethane  
 CN Dinitrotoluene  
 CN Dinitrotoluol  
 CN DNT  
 CN Methyl dinitrobenzene  
 DR 29656-15-3  
 MF C7 H6 N2 O4  
 CI IDS, COM  
 LC STN Files: AGRICOLA, ANABSTR, BIOSIS, BIOTECHNO, CA, CABA, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DETHERM\*, EMBASE, HSDB\*, IFICDB, IFIPAT, IFIUDB, MEDLINE, MSDS-OHS, PIRA, PROMT, RTECS\*, TOXCENTER, TULSA, ULIDAT, USPAT2, USPATFULL, USPATOLD  
 (\*File contains numerically searchable property data)  
 Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*  
 (\*\*Enter CHEMLIST File for up-to-date regulatory information)



D1-Me

2 [ D1-NO<sub>2</sub> ]

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1137 REFERENCES IN FILE CA (1907 TO DATE)  
19 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
1142 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> s 1321-12-6

L8 1 1321-12-6  
(1321-12-6/RN)

=> d

L8 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2009 ACS on STN

RN 1321-12-6 REGISTRY

ED Entered STN: 16 Nov 1984

CN Benzene, methylnitro- (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Toluene, ar-nitro- (8CI)

OTHER NAMES:

CN Methylnitrobenzene

CN Mononitrotoluene

CN Nitrophenylmethane

CN Nitrotoluene

MF C7 H7 N O2

CI IDS, COM

LC STN Files: AGRICOLA, BIOSIS, BIOTECHNO, CA, CAPLUS, CASREACT, CHEMLIST,  
CHEMSAFE, CIN, CSCHEM, CSNB, DETHERM\*, EMBASE, ENCOMPLIT, ENCOMPLIT2,  
ENCOMPPAT, ENCOMPPAT2, HSDB\*, IFICDB, IFIPAT, IFIUDB, MEDLINE, MSDS-OHS,  
PROMT, RTECS\*, TOXCENTER, TULSA, USPAT2, USPATFULL, USPATOLD  
(\*File contains numerically searchable property data)

Other Sources: EINECS\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)



D1-Me

D1-NO<sub>2</sub>

**\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\***

584 REFERENCES IN FILE CA (1907 TO DATE)  
13 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
586 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> file caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	14.51	55.65

FILE 'CAPLUS' ENTERED AT 13:17:37 ON 12 AUG 2009  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
COPYRIGHT (C) 2009 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 12 Aug 2009 VOL 151 ISS 7  
FILE LAST UPDATED: 11 Aug 2009 (20090811/ED)  
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Jun 2009  
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Jun 2009

CAplus now includes complete International Patent Classification (IPC) reclassification data for the second quarter of 2009.

CAS Information Use Policies apply and are available at:

<http://www.cas.org/legal/infopolicy.html>

This file contains CAS Registry Numbers for easy and accurate substance identification.

The ALL, BIB, MAX, and STD display formats in the CA/CAplus family of databases have been updated to include new citing references information. This enhancement may impact record import into database management software. For additional information, refer

to NEWS 9.

=> d his

(FILE 'HOME' ENTERED AT 13:12:34 ON 12 AUG 2009)

L1 FILE 'CAPLUS' ENTERED AT 13:12:49 ON 12 AUG 2009  
1 S US20080242900/PN

FILE 'REGISTRY' ENTERED AT 13:13:10 ON 12 AUG 2009

L2 FILE 'CAPLUS' ENTERED AT 13:13:18 ON 12 AUG 2009  
TRA L1 1- RN : 8 TERMS

L3 FILE 'REGISTRY' ENTERED AT 13:13:18 ON 12 AUG 2009  
8 SEA L2

FILE 'CAPLUS' ENTERED AT 13:16:12 ON 12 AUG 2009

L4 FILE 'REGISTRY' ENTERED AT 13:16:19 ON 12 AUG 2009  
0 S 121-14-3  
L5 1 S 121-14-2  
L6 1 S 606-20-2  
L7 1 S 25321-14-6  
L8 1 S 1321-12-6

FILE 'CAPLUS' ENTERED AT 13:17:37 ON 12 AUG 2009

=> s 15/prep

3338 L5  
4826579 PREP/RL  
L9 209 L5/PREP  
(L5 (L) PREP/RL)

=> s 16/prep

1621 L6  
4826579 PREP/RL  
L10 123 L6/PREP  
(L6 (L) PREP/RL)

=> s 17/prep

1142 L7  
4826579 PREP/RL  
L11 151 L7/PREP  
(L7 (L) PREP/RL)

=> s 19 or 110 or 111

L12 368 L9 OR L10 OR L11

=> dup remov

ENTER L# LIST OR (END):112

PROCESSING COMPLETED FOR L12

L13 368 DUP REMOV L12 (0 DUPLICATES REMOVED)

=> s 113 and 17

L14 368 S L13  
1142 L7  
L15 153 L14 AND L7

=> s 115 and nitric

225568 NITRIC  
3 NITRICS



## 225571 NITRIC

(NITRIC OR NITRICS)

L16 49 L15 AND NITRIC

=&gt; l16 and sulfuric

L16 IS NOT A RECOGNIZED COMMAND

The previous command name entered was not recognized by the system.

For a list of commands available to you in the current file, enter "HELP COMMANDS" at an arrow prompt (=&gt;).

=&gt; s l16 and sulfuric

176270 SULFURIC

16194 SULPHURIC

190261 SULFURIC

(SULFURIC OR SULPHURIC)

L17 32 L16 AND SULFURIC

=&gt; s l17 and py&lt;=2005

26321242 PY&lt;=2005

L18 24 L17 AND PY&lt;=2005

=&gt; d l18 abs ibib hitstr 1-

YOU HAVE REQUESTED DATA FROM 24 ANSWERS - CONTINUE? Y/(N):y

L18 ANSWER 1 OF 24 CAPLUS COPYRIGHT 2009 ACS ON STN

AB A method for producing dinitrotoluene comprises: (A) the nitration of toluene with nitric acid in the presence of sulfuric acid to give nitrotoluene; (B) separating the reaction product of step (A) into a nitrotoluene-containing organic phase and a sulfuric acid-containing aqueous phase; (C) nitrating the nitrotoluene-containing organic phase with nitric acid in the presence of sulfuric acid to give dinitrotoluene; and (D) separating the reaction product of step (C) into a dinitrotoluene-containing organic phase and a sulfuric acid containing aqueous phase. The reaction product of step (A) contains 3.0-8% of toluene, in relation to the organic phase, and 0.1-1.2% of nitric acid, in relation to the aqueous phase and the phase separation of step (B) is carried

out

in such a manner that further reaction of toluene with nitric acid is prevented. Process flow diagrams are presented.

ACCESSION NUMBER: 2005:811729 CAPLUS

DOCUMENT NUMBER: 143:213353

TITLE: Two-stage nitration method for producing dinitrotoluene from toluene

INVENTOR(S): Buettner, Johannes; MacKenroth, Wolfgang; Hermann, Heinrich; Konieczny, Peter; Gebauer, Juergen

PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Germany

SOURCE: PCT Int. Appl., 23 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005075407	A1	20050818	WO 2005-EP1017	20050202 <--
W	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,  
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,  
 EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,  
 RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,  
 MR, NE, SN, TD, TG

DE 102004005913 A1 20050825 DE 2004-102004005913 20040205 <--  
 EP 1713756 A1 20061025 EP 2005-701305 20050202

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, SI, LT, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS

CN 1918109 A 20070221 CN 2005-80004228 20050202  
 BR 2005007293 A 20070703 BR 2005-7293 20050202  
 JP 2007520512 T 20070726 JP 2006-551789 20050202  
 US 20080242900 A1 20081002 US 2006-586683 20060720  
 ZA 2006007374 A 20080625 ZA 2006-7374 20060904  
 KR 2006130203 A 20061218 KR 2006-718074 20060905  
 IN 2006CN03216 A 20070706 IN 2006-CN3216 20060905

PRIORITY APPLN. INFO.: DE 2004-102004005913A 20040205  
 WO 2005-EP1017 W 20050202

OTHER SOURCE(S): CASREACT 143:213353

IT 25321-14-6P, Dinitrotoluene  
 RL: EPR (Engineering process); IMF (Industrial manufacture); PEP  
 (Physical, engineering or chemical process); PREP (Preparation);  
 PROC (Process)  
 (two-stage nitration method for producing dinitrotoluene from toluene)

RN 25321-14-6 CAPLUS

CN Benzene, methyl-dinitro- (CA INDEX NAME)



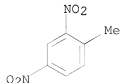
D1-Me

2 [ D1-NO2 ]

IT 121-14-2P, 2,4-Dinitrotoluene 606-20-2P,  
 2,6-Dinitrotoluene  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (two-stage nitration method for producing dinitrotoluene from toluene)

RN 121-14-2 CAPLUS

CN Benzene, 1-methyl-2,4-dinitro- (CA INDEX NAME)



RN 606-20-2 CAPLUS

CN Benzene, 2-methyl-1,3-dinitro- (CA INDEX NAME)



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD  
(1 CITINGS)  
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 2 OF 24 CAPLUS COPYRIGHT 2009 ACS on STN

AB The present invention relates to a process for working up or treating aqueous wastewater which are formed during the nitration of toluene to dinitrotoluene with nitrating acid. These aqueous wastewater containing acidic wash water and alkaline wash water from the dinitrotoluene washing step, and distillate from the sulfuric acid concentration step. The process comprises: (1) combining the acidic and alkaline wastewater from the washing step and the aqueous distillate from the sulfuric acid concentration step such that the resulting mixture has a pH below 5; (2) separating the aqueous and organic phases which are formed by phase separation; (3) subjecting the aqueous phase from (2) to an extraction step; (4) extracting the organic components contained in the aqueous phase from (3) with toluene; and (5) introducing the toluene phase enriched with the organic components into the toluene nitration.

ACCESSION NUMBER: 2005:786 CAPLUS

DOCUMENT NUMBER: 142:99610

TITLE: Process for working up the waste water obtained in the preparation of dinitrotoluene

INVENTOR(S): Munnig, Jurgen; Wastian, Dietmar; Lorenz, Wolfgang; Keggenhoff, Berthold

PATENT ASSIGNEE(S): Bayer Materials science AG, Germany

SOURCE: U.S. Pat. Appl. Publ., 6 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20040262238	A1	20041230	US 2004-878211	20040628 <--
US 6936741	B2	20050830		
DE 10329304	A1	20050203	DE 2003-10329304	20030630 <--
EP 1496043	A1	20050112	EP 2004-14227	20040617 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
KR 2005002620	A	20050107	KR 2004-49538	20040629 <--
CN 1576236	A	20050209	CN 2004-10063301	20040629 <--
CN 1285514	C	20061122		
JP 2005021890	A	20050127	JP 2004-194525	20040630 <--
PRIORITY APPLN. INFO.: DE 2003-10329304			A	20030630

IT 25321-14-6P, Dinitrotoluene

RL: INF (Industrial manufacture); PREP (Preparation)  
(process for working up wastewater obtained in preparation of dinitrotoluene)

RN 25321-14-6 CAPLUS

CN Benzene, methyl dinitro- (CA INDEX NAME)



D1-Me

2 [ D1-NO<sub>2</sub> ]

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD  
(1 CITINGS)  
REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 3 OF 24 CAPLUS COPYRIGHT 2009 ACS ON STN

AB Aromatic amines are produced from aromatic hydrocarbons by (a) reacting the aromatic hydrocarbon(s) with a mixture of nitric acid and sulfuric acid to generate a two-phase reaction mixture, (b) separating the reaction mixture into an aqueous acid phase and an organic phase containing the nitroarom. compds., (c) washing the organic phase to purify the nitroarom. compound(s), (d) hydrogenating the nitroarom. compound(s) in the presence of a catalyst to produce the aromatic amine(s) and water of reaction, and (e) separating the water of reaction formed in step (d) from the aromatic amine(s), in which the water of reaction separated in step (e) is used to wash the organic phase containing the nitroarom. compds. in step (c). The object of the present invention is, therefore, to decrease the amount of waste water produced during the preparation of aromatic amines and to increase the economic viability of the aromatic amine preparation process. Surprisingly, it has been found that water with a considerable concentration of aromatic amine(s) of up to 1000 ppm or more, can be used without any problem to wash the corresponding crude nitroarom. compound(s) without impairing either the nitration process or the subsequent hydrogenation reaction to produce the aromatic amine(s).

ACCESSION NUMBER: 2004:1054276 CAPLUS  
DOCUMENT NUMBER: 142:40423  
TITLE: Process for preparing aromatic amines  
INVENTOR(S): Keggenhoff, Berthold; Sittkus, Karl Rudolf; Mueller, Claudia; Zervoudis, Demetrios N.  
PATENT ASSIGNEE(S): Bayer Materialsience A.-G., Germany; Bayer Materialsience LLC  
SOURCE: Eur. Pat. Appl., 7 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1484312	A1	20041208	EP 2004-12192	20040524 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				

US 20040249213	A1	20041209	US 2003-454332	20030604 <--
US 7122701	B2	20061017		
JP 2004359685	A	20041224	JP 2004-164787	20040602 <--
CN 1572784	A	20050202	CN 2004-10048867	20040602 <--
KR 2004104926	A	20041213	KR 2004-40281	20040603 <--
PRIORITY APPLN. INFO.:			US 2003-454332	A 20030604

IT 25321-14-6P, Dinitrotoluene  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (process for preparing aromatic amines with reduced waste water release)

RN 25321-14-6 CAPLUS

CN Benzene, methyldinitro- (CA INDEX NAME)



D1-Me

2 [ D1-NO<sub>2</sub> ]

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 4 OF 24 CAPLUS COPYRIGHT 2009 ACS ON STN

AB A procedure is described for the preparation of dinitrotoluene by a two-stage nitration of toluene in which: (A) in a first stage toluene is adiabatically nitrated with nitric acid and the toluene is nitrated to ≥90% and where ≤50% of the assigned toluene is converted into dinitrotoluene, subsequently the mono nitrotoluene-containing organic phase and the aqueous sulfuric acid-containing acid phase are separated, the aqueous sulfuric acid-containing acid phase is subjected to flash evaporation, concentrated, and the concentrated sulfuric acid recovered is lead back into the reaction of the first stage and/or the reaction of the second stage; and isothermally completely converts (b) in a second stage the mononitrotoluene-containing organic phase from the first stage with nitrating acid and the aqueous sulfuric acid-containing acid phase is separated by vacuum evaporation, concentrated, and the recovered concentrated sulfuric acid is recycled to the first stage and/or the second stage. Process flow diagrams are presented.

ACCESSION NUMBER: 2004:738349 CAPLUS  
 DOCUMENT NUMBER: 141:245230  
 TITLE: Two-stage nitration process for the production of dinitrotoluene from toluene  
 INVENTOR(S): Dieterich, Erwin; Hielscher, Anke; Keggenhoff, Berthold; Keller-Killewald, Manfred; Muennig, Juergen; Wastian, Dietmar  
 PATENT ASSIGNEE(S): Bayer Ag, Germany  
 SOURCE: Ger. Offen., 13 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1

## PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10307140	A1	20040909	DE 2003-10307140	20030220 <--
EP 1508563	A1	20050223	EP 2004-2754	20040207 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
US 20040267061	A1	20041230	US 2004-780266	20040217 <--
US 6984762	B2	20060110		
KR 2004075751	A	20040830	KR 2004-10981	20040219 <--
JP 2004250452	A	20040909	JP 2004-43476	20040219 <--
RU 2330836	C2	20080810	RU 2004-104740	20040219
CN 1523006	A	20040825	CN 2004-10006845	20040220 <--
CN 100343224	C	20071017		

PRIORITY APPLN. INFO.: DE 2003-10307140 A 20030220  
 OTHER SOURCE(S): CASREACT 141:245230  
 IT 25321-14-6P, Dinitrotoluene  
 RL: EPR (Engineering process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)  
 (two-stage nitration process for the production of dinitrotoluene from toluene)  
 RN 25321-14-6 CAPLUS  
 CN Benzene, methylidinitro- (CA INDEX NAME)



D1-Me

2 [ D1-NO<sub>2</sub> ]

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L18 ANSWER 5 OF 24 CAPLUS COPYRIGHT 2009 ACS on STN

AB An improvement in a process for the production of dinitrotoluene and particularly to the recovery of dinitrotoluene and organic byproducts from the wastewater and wash waters generated in the process is reported. Wastewater and wash water streams contaminated with residual levels of mononitrotoluene, dinitrotoluene, and organic byproducts, formed in the purification process, are contacted with toluene. An organic phase and an aqueous

phase are generated. The phases are separated and the dinitrotoluene recovered from the organic phase; process flow diagrams are presented.

ACCESSION NUMBER: 2003:35387 CAPLUS

DOCUMENT NUMBER: 138:91814

TITLE: Toluene extraction of dinitrotoluene wash water

INVENTOR(S): Sawicki, John Edward

PATENT ASSIGNEE(S): Air Products and Chemicals, Inc., USA

SOURCE: U.S., 10 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	US 6506948	B1	20030114	US 2002-72217	20020207 <--
PRIORITY APPLN. INFO.:				US 2002-72217	20020207
IT	25321-14-6P, Dinitrotoluene				
	RL: EPR (Engineering process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)				
	(toluene extraction of dinitrotoluene wash water)				
RN	25321-14-6 CAPLUS				
CN	Benzene, methyldinitro- (CA INDEX NAME)				



D1-Me

2 [ D1-NO<sub>2</sub> ]

OS.CITING REF COUNT: 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS RECORD (5 CITINGS)  
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 6 OF 24 CAPLUS COPYRIGHT 2009 ACS on STN

AB A continuous, isothermal process for the preparation of mononitrotoluenes in the presence of phosphoric acid using sulfuric and aqueous nitric acid is described.

ACCESSION NUMBER: 2002:773663 CAPLUS

DOCUMENT NUMBER: 137:281030

TITLE: Continuous isothermal process for the preparation of mononitrotoluene in the presence of phosphoric acid  
Gotta, Matthias; Demuth, Ralf; Zirngiebl, Eberhard; Weber, Hans-Martin; Ronge, Georg

INVENTOR(S): Bayer Aktiengesellschaft, Germany; Bayer Chemicals AG

PATENT ASSIGNEE(S): Eur. Pat. Appl., 9 pp.

SOURCE: CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	EP 1247798	A1	20021009	EP 2002-6614	20020325 <--
	EP 1247798	B1	20040602		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	DE 10117207	C1	20021114	DE 2001-10117207	20010406 <--
	IN 2002MU00269	A	20051118	IN 2002-MU269	20020321 <--

AT 268321	T	20040615	AT 2002-6614	20020325 <--
US 20020147372	A1	20021010	US 2002-114288	20020402 <--
US 6768032	B2	20040727		
CA 2380159	A1	20021006	CA 2002-2380159	20020403 <--
JP 2002338529	A	20021127	JP 2002-101189	20020403 <--
JP 4257893	B2	20090422		
KR 869014	B1	20081117	KR 2002-18489	20020404
CN 1380283	A	20021120	CN 2002-105465	20020405 <--
CN 1219745	C	20050921		
RU 2293722	C2	20070220	RU 2002-108673	20020405
HK 1051180	A1	20060512	HK 2003-103447	20030515

PRIORITY APPLN. INFO.:  
 IT 25321-14-6P, Dinitrotoluene  
 RL: BYP (Byproduct); PREP (Preparation)  
 (in a continuous isothermal process for the preparation of mononitrotoluene  
 in the presence of phosphoric acid)  
 RN 25321-14-6 CAPLUS  
 CN Benzene, methylidinitro- (CA INDEX NAME)



D1-Me

2 [ D1-NO<sub>2</sub> ]

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD  
 (1 CITINGS)  
 REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 7 OF 24 CAPLUS COPYRIGHT 2009 ACS on STN

AB A stripping and neutralization process for minimization of wastewater in  
 the nitration manufacture of dinitrotoluene from toluene is described and  
 process flow diagrams are presented.

ACCESSION NUMBER: 2002:632480 CAPLUS

DOCUMENT NUMBER: 137:171386

TITLE: Stripping and neutralization process for minimization  
 of wastewater in the nitration manufacture of  
 dinitrotoluene from toluene

INVENTOR(S): Plinke, Guenter; Winterbauer, Hansjuergen

PATENT ASSIGNEE(S): Plinke G.m.b.H., Germany

SOURCE: Ger., 8 pp.

CODEN: GWXXAW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----		-----	-----	-----
DE 10143800	C1	20020822	DE 2001-10143800	20010906 <--
PRIORITY APPLN. INFO.:			DE 2001-10143800	20010906
IT 25321-14-6P, Dinitrotoluene				



RL: EPR (Engineering process); IMF (Industrial manufacture); PEP  
(Physical, engineering or chemical process); PYP (Physical process);  
PREP (Preparation); PROC (Process)  
(stripping and neutralization process for minimization of wastewater in  
the nitration manufacture of dinitrotoluene from toluene)

RN 25321-14-6 CAPLUS

CN Benzene, methylidinitro- (CA INDEX NAME)



D1-Me

2 [ D1-NO2 ]

OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD  
(3 CITINGS)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 8 OF 24 CAPLUS COPYRIGHT 2009 ACS ON STN

AB An integrated process for treating alkaline wash water effluent from  
nitroarom. (e.g., nitrobenzene) manufacture, principally containing  
nitro-hydroxy-aromatic compds. is described. The integrated process concs.  
the alkaline wash water to recover chems. and water prior to treating the  
concentrate through supercrit. water oxidation The supercrit. water oxidation  
step consists of treating the concentrate in the presence of an oxygen source at  
conditions, which are supercrit. for water to cause a substantial portion  
of the organic component of the concentrate to oxidize. The product effluent  
includes a gaseous component and a clean water component, and in the event  
that insol. ash is formed, an ash component. The new integrated process  
results in reduced chemical and water consumption compared to existing  
processes. In addition, the treated wash water effluent can be recycled to  
process or directly discharged.

ACCESSION NUMBER: 2001:668367 CAPLUS

DOCUMENT NUMBER: 135:228504

TITLE: Integrated effluent treatment process for  
nitroaromatic manufacture  
INVENTOR(S): Boyd, David Anthony; Gairns, Stuart Alan; Guenkel,  
Alfred Alexander

PATENT ASSIGNEE(S): Noram Engineering and Constructors Ltd., Can.

SOURCE: U.S., 15 pp.  
CODEN: USXXAM

DOCUMENT TYPE: Patent  
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----		-----	-----	-----
US 6288289	B1	20010911	US 2000-492851	20000127 <--
EP 1132347	A2	20010912	EP 2001-101845	20010126 <--
EP 1132347	A3	20010926		

EP 1132347 B1 20050928  
 EP 1132347 B2 20090318  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, SI, LT, LV, FI, RO  
 PRIORITY APPLN. INFO.: US 2000-492851 A 20000127  
 IT 25321-14-6P, Dinitrotoluene  
 RL: IMF (Industrial manufacture); PUR (Purification or recovery);  
 PREP (Preparation)  
 (in an integrated effluent treatment process for nitroarom. manufacture)  
 RN 25321-14-6 CAPLUS  
 CN Benzene, methylidinitro- (CA INDEX NAME)



D1-Me

2 [ D1-NO<sub>2</sub> ]

OS.CITING REF COUNT: 8 THERE ARE 8 CAPLUS RECORDS THAT CITE THIS RECORD  
 (8 CITINGS)  
 REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 9 OF 24 CAPLUS COPYRIGHT 2009 ACS ON STN

AB In view of problems of low heat efficiency and environmental pollution  
 problems during spent acid concentration, the spent waste acid from  
 mononitrotoluene (MNT) was to be concentrated to 72%-77% at 140-160° and  
 200-300 mm Hg. The concentrated sulfuric acid could be used directly  
 in the nitrating plant. It features simplicity in operation, satisfied  
 results in practice observed

ACCESSION NUMBER: 2000:774606 CAPLUS  
 DOCUMENT NUMBER: 134:268036  
 TITLE: Study on the cycling utilization of disposed spent  
 acid of mono-nitrotoluene  
 AUTHOR(S): Dong, Yun; Cui, Yingxiang; Bao, Yiguo; Yang, Hui  
 CORPORATE SOURCE: Jiangsu Huaihua Group Co., Ltd., Xuyi, 211742, Peop.  
 Rep. China  
 SOURCE: Ranliao Gongye (2000), 37(3), 33-35  
 CODEN: RAGOF5; ISSN: 1006-6632  
 PUBLISHER: Huagongbu Shenyang Huagong Yanjiuyuan  
 DOCUMENT TYPE: Journal  
 LANGUAGE: Chinese  
 IT 25321-14-6P, Dinitrotoluene  
 RL: BYP (Byproduct); PREP (Preparation)  
 (in cycling waste acid of mono-nitrotoluene manufacture)  
 RN 25321-14-6 CAPLUS  
 CN Benzene, methylidinitro- (CA INDEX NAME)



D1-Me

2 [ D1-NO<sub>2</sub> ]

L18 ANSWER 10 OF 24 CAPLUS COPYRIGHT 2009 ACS on STN

AB The nitration of aromatic compds. is achieved in high yield and selectivity by using oxygen activated by an inorg. catalyst and nitrogen dioxide. Since this process uses neither concentrated nitric nor sulfuric acids, the generation of spent waste acid does not occur. Furthermore, the process does not encounter the problem of high costs associated with the generation of ozone as in an alternative nitration process. Since the solubility of oxygen in a reaction medium is increased by using pressurized oxygen, nitrogen dioxide is activated by a porous inorg. oxide catalyst (e.g., silica) and thus an aromatic compound (e.g., benzene) is nitrated into a nitro compound (e.g., PhNO<sub>2</sub>), the reaction rate is significantly increased, and the recovery of reactants is easy due to the insoly. of the catalyst.

ACCESSION NUMBER: 1999:549245 CAPLUS  
DOCUMENT NUMBER: 131:157644  
TITLE: Process and catalysts for the nitration of aromatic compounds using oxygen and nitrogen dioxide  
INVENTOR(S): Lee, Bon-Su; Chung, Kyoo-Hyun; Lee, Yoon-Sik; Kim, Young-Gyu  
PATENT ASSIGNEE(S): Inha University Foundation, S. Korea  
SOURCE: PCT Int. Appl., 19 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9942433	A1	19990826	WO 1998-KR285	19980918 <--
W: JP, US RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1062198	A1	20001227	EP 1998-944327	19980918 <--
EP 1062198	B1	20030604		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2002503716	T	20020205	JP 2000-532386	19980918 <--
AT 242196	T	20030615	AT 1998-944327	19980918 <--
US 6291726	B1	20010918	US 2000-622285	20001018 <--
PRIORITY APPLN. INFO.:				
			KR 1998-5014	A 19980218
			WO 1998-KR285	W 19980918
OTHER SOURCE(S): CASREACT 131:157644				
IT 25321-14-6P, Dinitrotoluene				
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)				

(catalysts for the conversion of aromatic compds. using a oxygen and nitrogen dioxide into nitroaroms.)

RN 25321-14-6 CAPLUS

CN Benzene, methylidinitro- (CA INDEX NAME)



D1-Me

2 [ D1-NO2 ]

OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (4 CITINGS)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 11 OF 24 CAPLUS COPYRIGHT 2009 ACS on STN

AB The pollution source in nitrotoluene production was introduced, approaches for reducing the pollution were discussed. The waste gas emitted from the nitration process mainly contained NO and NO2, the waste acid from the nitration process mainly contained H2SO4 68-71, HNO3 1-2, and nitration product 0.4-0.6%. The wastewater from the after-treatment of nitrotoluene contained nitrotoluene, NaOH, Na2SO4, and phenol. Tar from rectification process contained 19-23% dinitrotoluene and 77-81% nitrotoluene. Measures for reuse of the waste acid and recovery of nitrotoluene from the tar were introduced. The waste gas was absorbed with Na2CO3, and formed byproduct nitrate. The toxic wastewater was extracted and recovered (or incinerated), the phenol containing wastewater was treated by biol. treatment method.

ACCESSION NUMBER: 1999:464437 CAPLUS

DOCUMENT NUMBER: 131:189010

TITLE: Pollution control technology in nitrotoluene production

AUTHOR(S): Dong, Yun

CORPORATE SOURCE: Jiangsu Huaihe Chemical Plant, Yuyi, 211742, Peop. Rep. China

SOURCE: Huagong Huanbao (1999), 19(3), 172-175

CODEN: HUHUFJ; ISSN: 1006-1878

PUBLISHER: Huagong Huanbao Bianjibu

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

IT 25321-14-6P, DiNitrotoluene

RL: POL (Pollutant); PUR (Purification or recovery); REM (Removal or disposal); OCCU (Occurrence); PREP (Preparation); PROC (Process)  
(removal from tar; pollution control technol. in nitrotoluene manufacturing)

RN 25321-14-6 CAPLUS

CN Benzene, methylidinitro- (CA INDEX NAME)



D1-Me

2 [ D1-NO2 ]

L18 ANSWER 12 OF 24 CAPLUS COPYRIGHT 2009 ACS on STN

AB A process is presented for the production of dinitrotoluene, a TDI intermediate (no data), using a feed sulfuric acid, referred to as weak acid, as the feed sulfuric acid for the nitration facility. The weak acid feed concentration is 86-91%, preferably 87-89%, to

meet the total sulfuric acid requirements for the facility. This is accomplished by utilizing cocurrent processing in a mononitration zone and countercurrent nitration with respect to sulfuric acid in the dinitration zone. Process flow diagrams are presented.

ACCESSION NUMBER: 1999:209138 CAPLUS

DOCUMENT NUMBER: 130:239145

TITLE: Continuous nitration process for producing dinitrotoluene from toluene with nitric and sulfuric acids

INVENTOR(S): Mazzafro, William Joseph; Clarke, Stephen Ian; Simpson, Mark Shedric; Van Court, Carr Richard

PATENT ASSIGNEE(S): Air Products and Chemicals, Inc., USA

SOURCE: Eur. Pat. Appl., 13 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 903336	A2	19990324	EP 1998-117490	19980915 <--
EP 903336	A3	20010425		
EP 903336	B1	20030521		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
US 5902910	A	19990511	US 1997-933706	19970919 <--
BR 9803446	A	19991214	BR 1998-3446	19980914 <--
PT 903336	T	20030930	PT 1998-117490	19980915 <--
ES 2196446	T3	20031216	ES 1998-117490	19980915 <--
CN 1216760	A	19990519	CN 1998-119555	19980919 <--
CN 1157362	C	20040714		

PRIORITY APPLN. INFO.: US 1997-933706 A 19970919

IT 25321-14-6P, Dinitrotoluene

RL: IMF (Industrial manufacture); PREP (Preparation)  
(continuous nitration process for producing dinitrotoluene from toluene with nitric and sulfuric acids)

RN 25321-14-6 CAPLUS

CN Benzene, methyl dinitro- (CA INDEX NAME)



D1-Me

2 [ D1-NO<sub>2</sub> ]

OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD  
(3 CITINGS)

L18 ANSWER 13 OF 24 CAPLUS COPYRIGHT 2009 ACS on STN

AB Crude dinitrotoluene from nitration of toluene or mononitrotoluene, after separation of nitrating acid, is extracted with a countercurrent stream of dilute aqueous solution of HNO<sub>3</sub>, H<sub>2</sub>SO<sub>4</sub> and HNO<sub>2</sub> in a multistage process where the volume ratio of dinitrotoluene to aqueous solution is 1:3 to 10:1, and the aqueous extract is recycled to the nitrating process, directly or after concentration (e.g., to 65% HNO<sub>3</sub>). Approx. 98% of the HNO<sub>3</sub> and HNO<sub>2</sub> in the crude dinitrotoluene are removed.

ACCESSION NUMBER: 1996:676109 CAPLUS  
DOCUMENT NUMBER: 125:304516  
ORIGINAL REFERENCE NO.: 125:56913a, 56916a  
TITLE: Nitric acid, sulfuric acid and nitrous acid removal, recovery and recycling in nitrating of toluene or mononitrotoluene  
INVENTOR(S): Hermann, Heinrich; Gebauer, Juergen  
PATENT ASSIGNEE(S): Josef Meissner GmbH & Co., Germany  
SOURCE: Eur. Pat. Appl., 6 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: German  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 736514	A1	19961009	EP 1996-104233	19960316 <--
EP 736514	B1	20010620		
R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, PT, SE				
DE 19512114	A1	19961010	DE 1995-19512114	19950404 <--
DE 19512114	C2	20000427		
US 5756867	A	19980526	US 1995-529100	19950915 <--
AT 202333	T	20010715	AT 1996-104233	19960316 <--
IN 187139	A1	20020209	IN 1996-CA475	19960318 <--
CA 2173381	A1	19961005	CA 1996-2173381	19960403 <--
CA 2173381	C	20070626		
CN 1145893	A	19970326	CN 1996-105960	19960403 <--
CN 1085656	C	20020529		
PL 187688	B1	20040930	PL 1996-313631	19960404 <--
PRIORITY APPLN. INFO.:			DE 1995-19512114	A 19950404
IT 25321-14-6P, Dinitrotoluene				
RL: IMF (Industrial manufacture); PUR (Purification or recovery);				

## PREP (Preparation)

(nitric acid, sulfuric acid and nitrous acid  
removal, recovery and recycling in nitrating of toluene or  
mononitrotoluene)

RN 25321-14-6 CAPLUS

CN Benzene, methyldinitro- (CA INDEX NAME)



D1-Me

2 [ D1-NO<sub>2</sub> ]

OS.CITING REF COUNT: 8 THERE ARE 8 CAPLUS RECORDS THAT CITE THIS RECORD  
(8 CITINGS)

L18 ANSWER 14 OF 24 CAPLUS COPYRIGHT 2009 ACS on STN

AB Aromatic compds. (e.g., PhMe) are continuously dinitrated with a nitronium  
ion-containing solution (e.g., aqueous mixts. of HNO<sub>3</sub> and H<sub>2</sub>SO<sub>4</sub>) by: (a)

conducting

the dinitration in an emulsion reaction mixture; (b) using 1.3-3.5 mol HNO<sub>3</sub>  
(in the form of a nitronium ion-containing solution) per mol aromatic

compound; (c)

maintaining the dispersion from coalescence through the use of multiple  
dispersions; (d) the first dispersion of the liquid stream is  $\geq 1$  s  
for manufacture of the emulsion; and (e)  $\geq 20\%$  of the total HNO<sub>3</sub> is added  
to the first dispersion. A process flow diagram and reactor schematic is  
presented.

ACCESSION NUMBER: 1996:345384 CAPLUS

DOCUMENT NUMBER: 125:10357

ORIGINAL REFERENCE NO.: 125:2281a,2284a

TITLE: Continuous method for the dinitration of aromatic  
compoundsINVENTOR(S): Pirkkl, Hans-Georg; Schomaecker, Reinhard; Klingler,  
Uwe; Schieb, Thomas; Wiechers, Gerhard; Zimmermann,  
Juergen

PATENT ASSIGNEE(S): Bayer A.-G., Germany

SOURCE: Ger. Offen., 13 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	---	----	-----	-----
DE 4437047	A1	19960418	DE 1994-4437047	19941017 <--
EP 708076	A2	19960424	EP 1995-115901	19951009 <--
EP 708076	A3	20010919		
EP 708076	B1	20030423		
R: BE, DE, ES, FR, GB, IT, NL				
ES 2196036	T3	20031216	ES 1995-115901	19951009 <--
CA 2160520	A1	19960418	CA 1995-2160520	19951013 <--

US 5616818	A	19970401	US 1995-543095	19951013 <--
JP 08208566	A	19960813	JP 1995-291687	19951016 <--
BR 9504424	A	19970520	BR 1995-4424	19951016 <--
CN 1125723	A	19960703	CN 1995-109589	19951017 <--
CN 1059667	C	20001220		

PRIORITY APPLN. INFO.: DE 1994-4437047 A 19941017

OTHER SOURCE(S): CASREACT 125:10357

IT 25321-14-6P, Dinitrotoluene  
 RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)  
 (continuous method for the dinitration of aromatic compds.)

RN 25321-14-6 CAPLUS

CN Benzene, methyl dinitro- (CA INDEX NAME)



D1-Me

2 [ D1-NO<sub>2</sub> ]

OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)

L18 ANSWER 15 OF 24 CAPLUS COPYRIGHT 2009 ACS on STN

AB A review with 62 refs. Tech. and chemical aspects of the industrial nitration of toluene to mono- (MNT) and dinitrotoluene (DNT) in mixed acid are discussed. In modern mixed acid nitration plants for DNT, the spent acid from the MNT-stage is purified, reconcd., and recycled back into the nitration process. Thus the consumption of sulfuric acid per one ton of DNT is reduced to almost zero. Moreover, also the sulfuric-, nitric-, nitrous acid and MNT/DNT from the washing of the crude DNT and from the purification and reconcn. of the MNT spent acid are recovered and recycled back into nitration. By doing so not only the nitrate load of the waste water from a DNT nitration plant is reduced by 95% but also the consumption figures for nitric acid are considerably improved. More than 98% of the nitric acid needed for nitration can thus be converted to DNT.

ACCESSION NUMBER: 1996:288541 CAPLUS

DOCUMENT NUMBER: 124:320045

ORIGINAL REFERENCE NO.: 124:59293a, 59296a

TITLE: Industrial nitration of toluene to dinitrotoluene.  
 Requirements of a modern facility for the production of dinitrotoluene

AUTHOR(S): Hermann, H.; Gebauer, J.; Konieczny, P.

CORPORATE SOURCE: Josef Meissner GmbH Co., Cologne, 50968, Germany

SOURCE: ACS Symposium Series (1996), 623(Nitration),  
 234-249

CODEN: ACSMC8; ISSN: 0097-6156

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal; General Review

LANGUAGE: English

IT 25321-14-6P, Dinitrotoluene

RL: IMF (Industrial manufacture); PREP (Preparation)



(requirements of modern facility for industrial nitration of toluene to dinitrotoluene)

RN 25321-14-6 CAPLUS

CN Benzene, methylidinitro- (CA INDEX NAME)



D1-Me

2 [ D1-NO<sub>2</sub> ]

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD  
(1 CITINGS)

L18 ANSWER 16 OF 24 CAPLUS COPYRIGHT 2009 ACS on STN

AB A new process, developed at Olin for manufacture of dinitrotoluene, avoids use of sulfuric acid by using high strength nitric acid to synthesize DNT, a precursor of toluene diisocyanate. The advantages of the new process include reduced raw material consumption and significantly lower capital investment for waste treatment facilities. These advantages are derived from careful control of the reaction conditions. Unwanted byproducts are minimized in the reactor and do not have to be removed in subsequent processing.

ACCESSION NUMBER: 1996:288539 CAPLUS

DOCUMENT NUMBER: 124:320067

ORIGINAL REFERENCE NO.: 124:59297a,59300a

TITLE: Commercial dinitrotoluene production process

AUTHOR(S): Quakenbush, Allen B.; Pennington, B. Timothy

CORPORATE SOURCE: Olin corp., Lake Charles, LA, 70602, USA

SOURCE: ACS Symposium Series (1996), 623(Nitration),  
214-222

CODEN: ACSMC8; ISSN: 0097-6156

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

IT 25321-14-6P, Dinitrotoluene

RL: IMF (Industrial manufacture); PREP (Preparation)

(dinitrotoluene manufacture by nitration of toluene in presence of  
nitric acid only)

RN 25321-14-6 CAPLUS

CN Benzene, methylidinitro- (CA INDEX NAME)



D1-Me

2 [ D1-NO<sub>2</sub> ]

OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD  
(3 CITINGS)

L18 ANSWER 17 OF 24 CAPLUS COPYRIGHT 2009 ACS on STN

AB Dinitrotoluene isomer mixts., useful as TDI precursors (no data), which have reduced ortho-isomer content (e.g., 4.0-4.1%), are prepared via the 2-step nitration of PhMe with HNO<sub>3</sub> and H<sub>2</sub>SO<sub>4</sub> in which the second nitration step is conducted under adiabatic conditions.

ACCESSION NUMBER: 1996:254271 CAPLUS

DOCUMENT NUMBER: 124:288975

ORIGINAL REFERENCE NO.: 124:53579a,53582a

TITLE: Two-step nitration process for the preparation of dinitrotoluene isomer mixtures having reduced ortho-isomer content

INVENTOR(S): Klingler, Uwe; Schieb, Thomas; Wiechers, Gerhard; Zimmermann, Juergen

PATENT ASSIGNEE(S): Bayer A.-G., Germany

SOURCE: Eur. Pat. Appl., 4 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 696571	A2	19960214	EP 1995-111996	19950731 <--
EP 696571	A3	19980610		
EP 696571	B1	20000126		
R: BE, DE, ES, FR, GB, IT, NL				
DE 4428462	A1	19960215	DE 1994-4428462	19940811 <--
ES 2144074	T3	20000601	ES 1995-111996	19950731 <--
US 5689018	A	19971118	US 1995-510803	19950803 <--
CA 2155562	A1	19960212	CA 1995-2155562	19950807 <--
CA 2155562	C	20061114		
JP 08059565	A	19960305	JP 1995-222793	19950809 <--
JP 3631814	B2	20050323		
BR 9503612	A	19960430	BR 1995-3612	19950810 <--
CN 1121507	A	19960501	CN 1995-109295	19950811 <--
CN 1075054	C	20011121		

PRIORITY APPLN. INFO.: DE 1994-4428462 A 19940811

OTHER SOURCE(S): CASREACT 124:288975

IT 25321-14-6P, Dinitrotoluene

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)

(two-step nitration process for the preparation of dinitrotoluene isomer mixts. having reduced ortho-isomer content)

RN 25321-14-6 CAPLUS  
CN Benzene, methyldinitro- (CA INDEX NAME)



D1-Me

2 [ D1-NO<sub>2</sub> ]

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD  
(1 CITINGS)

L18 ANSWER 18 OF 24 CAPLUS COPYRIGHT 2009 ACS on STN

AB Replacement of H<sub>2</sub>SO<sub>4</sub> in mixed acid aromatic nitrations by inorg. solids, with accumulation or elimination of produced water results in a fundamentally different behavior of the HNO<sub>3</sub>-solid couple. If water accumulates, HNO<sub>3</sub> becomes a selective oxidative coupling catalyst, whereas when water is eliminated efficiently, HNO<sub>3</sub> alone behaves as a strong nitrating agent, with increased para-selectivity as compared to the sulfo-nitric system.

ACCESSION NUMBER: 1992:23321 CAPLUS

DOCUMENT NUMBER: 116:23321

ORIGINAL REFERENCE NO.: 116:4059a,4062a

TITLE: Nitric acid associated with inorganic solids: a versatile reagent and catalyst in the chemistry of aromatics

AUTHOR(S): Gubelmann, M. H.; Doussain, C.; Tirel, P. J.; Popa, J. M.

CORPORATE SOURCE: Rhone Poulenc Rech., Saint Fons, F-69192, Fr.  
SOURCE: Studies in Surface Science and Catalysis (1991), 59(Heterog. Catal. Fine Chem. 2), 471-8

CODEN: SSCIDM; ISSN: 0167-2991

DOCUMENT TYPE: Journal

LANGUAGE: English

IT 25321-14-6P, Dinitrotoluene

RL: FORM (Formation, nonpreparative); PREP (Preparation)  
(formation of, during toluene nitration)

RN 25321-14-6 CAPLUS

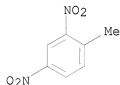
CN Benzene, methyldinitro- (CA INDEX NAME)



D1-Me

2 [ D1-NO<sub>2</sub> ]

IT 121-14-2P, 2,4-Dinitrotoluene  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (preparation of, by nitrotoluene nitration, selective catalysts for)  
 RN 121-14-2 CAPLUS  
 CN Benzene, 1-methyl-2,4-dinitro- (CA INDEX NAME)



L18 ANSWER 19 OF 24 CAPLUS COPYRIGHT 2009 ACS on STN  
 AB (O2N)2C6H3Me (I), useful as intermediate for tolylene diisocyanate, is  
 prepared by liquid-phase nitration of MePh in the absence of H2SO4 and phase  
 separation by an alkali or alkaline earth nitrate salt. MePh was added to 9  
 mol  
 equiv 98% HNO<sub>3</sub> at 70° to complete the nitration in 4 min,  
 Mg(NO<sub>3</sub>)2.6H<sub>2</sub>O was added to sep. the lighter phase containing I from the heavy  
 phase containing HNO<sub>3</sub>/Mg(NO<sub>3</sub>)<sub>2</sub>. This process avoids using H<sub>2</sub>SO<sub>4</sub> during  
 nitration which results in process simplification and economy.

ACCESSION NUMBER: 1991:408280 CAPLUS  
 DOCUMENT NUMBER: 115:8280  
 ORIGINAL REFERENCE NO.: 115:1609a,1612a  
 TITLE: Process for the production of dinitrotoluene  
 INVENTOR(S): Mason, Robert W.  
 PATENT ASSIGNEE(S): Olin Corp., USA  
 SOURCE: U.S., 3 pp. Cont-in-part of U.S. Ser. No. 210,549.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 4  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5001272	A	19910319	US 1989-402322	19890905 <--
CA 1340073	C	19981006	CA 1989-603642	19890622 <--
CA 2008342	A1	19910723	CA 1990-2008342	19900123 <--
IN 177244	A1	19961214	IN 1990-DE77	19900130 <--
CN 1054247	A	19910904	CN 1990-100885	19900222 <--
CN 1026583	C	19941116		

PRIORITY APPLN. INFO.: US 1988-210549 A2 19880622

IT 25321-14-6P, Dinitrotoluene  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of, as intermediate or toluene diisocyanate)  
RN 25321-14-6 CAPLUS  
CN Benzene, methyldinitro- (CA INDEX NAME)



D1-Me

2 [ D1-NO<sub>2</sub> ]

OS.CITING REF COUNT: 6 THERE ARE 6 CAPLUS RECORDS THAT CITE THIS RECORD  
(6 CITINGS)  
REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 20 OF 24 CAPLUS COPYRIGHT 2009 ACS on STN

AB A continuous method of mixing acid for cascade of nitrators is proposed.  
At the beginning, some of the nitrators in the cascade are empty, and the  
others are filled with acid of concentration Ci (initial acid concentration in  
the ith  
nitrator). Acid of concentration C<sub>B</sub> is fed continuously into the 1st  
nitrator. While the last one is full, concentration in every nitrator would be  
as desired. During this process, the acid with different concentration mixes  
inside the 1st one and flows into the 2nd, etc. A math. model of this  
process is studied, so has the searching technique for optimum operation  
parameters C<sub>B</sub>, C<sub>o</sub> and dimensionless time. The method is accurate,  
fast, and easily carried out. It can be used for any kind of cascade of  
reactors.

ACCESSION NUMBER: 1990:634205 CAPLUS  
DOCUMENT NUMBER: 113:234205  
ORIGINAL REFERENCE NO.: 113:39483a, 39486a  
TITLE: Continuous method of mixing acid and its mathematical  
model for TNT manufacture  
AUTHOR(S): Hu, Shaoming  
CORPORATE SOURCE: Xian Mod. Chem. Res. Inst., Xian, 710061, Peop. Rep.  
China  
SOURCE: Proceedings of the International Pyrotechnics Seminar  
(1990), 15th, 421-6  
CODEN: PPYSD7; ISSN: 0270-1898  
DOCUMENT TYPE: Journal  
LANGUAGE: English

IT 25321-14-6P, Dinitrotoluene  
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or  
reagent)  
(nitration of, mixed acid in, preparation of)  
RN 25321-14-6 CAPLUS  
CN Benzene, methyldinitro- (CA INDEX NAME)



D1-Me

2 [ D1-NO<sub>2</sub> ]

L18 ANSWER 21 OF 24 CAPLUS COPYRIGHT 2009 ACS on STN

AB The process for the recovery of HNO<sub>3</sub> in the spent acid phase from a mixed acid mononitration reaction comprises, (a) adding sufficient amount of HNO<sub>3</sub> to provide at least .apprx.2 weight% HNO<sub>3</sub> concentration in the spent acid phase from the mononitration reaction, and (b) adiabatically reacting a mononitroarom. hydrocarbon in greater than a stoichiometric amount with the HNO<sub>3</sub> in the spent acid phase to afford a dinitroarom. hydrocarbon product and a HNO<sub>3</sub> concentration of less than <0.25 weight% in the spent acid phase.

The above recovery process was used in the preparation of dinitrotoluenes from toluene and HNO<sub>3</sub> and H<sub>2</sub>SO<sub>4</sub>.

ACCESSION NUMBER: 1985:166450 CAPLUS  
DOCUMENT NUMBER: 102:166450  
ORIGINAL REFERENCE NO.: 102:26161a, 26164a  
TITLE: Nitric acid recovery by the adiabatic nitration of nitro aromatics with fortified spent acid Carr, Richard V. C.  
INVENTOR(S):  
PATENT ASSIGNEE(S): Air Products and Chemicals, Inc., USA  
SOURCE: U.S., 9 pp.  
CODEN: USXXAM  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4496782	A	19850129	US 1983-512289	19830708 <--
PRIORITY APPLN. INFO.:			US 1983-512289	19830708
OTHER SOURCE(S):	MARPAT 102:166450			
IT 25321-14-6P				
RL: SPN (Synthetic preparation); PREP (Preparation)				
(preparation of, from toluene by nitration with nitric acid-sulfuric acid, nitric acid recovery in relation to)				
RN 25321-14-6 CAPLUS				
CN Benzene, methyldinitro-	(CA INDEX NAME)			



D1-Me

2 [ D1-NO<sub>2</sub> ]

OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD  
(3 CITINGS)  
REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 22 OF 24 CAPLUS COPYRIGHT 2009 ACS on STN  
AB The manufacture of dinitrotoluene by nitration of toluene with HNO<sub>3</sub>-H<sub>2</sub>SO<sub>4</sub> was  
improved by (1) contacting the spent nitrating acid mixture with an  
oxidizing or a reducing agent to remove contaminant HNO<sub>2</sub>, and (2)  
contacting the HNO<sub>2</sub>-free spent acid from step 1 with PhMe to remove  
residual HNO<sub>3</sub> leaving a mixture consisting essentially of H<sub>2</sub>SO<sub>4</sub> and organic  
contaminants.

ACCESSION NUMBER: 1981:208522 CAPLUS  
DOCUMENT NUMBER: 94:208522  
ORIGINAL REFERENCE NO.: 94:34099a,34102a  
TITLE: Refining aqueous acid mixtures utilized in nitration  
of aromatics  
INVENTOR(S): Milligan, Barton; Huang, Der-Shing  
PATENT ASSIGNEE(S): Air Products and Chemicals, Inc., USA  
SOURCE: U.S., 6 pp.  
CODEN: USXXAM  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4257986	A	19810324	US 1979-8906	19790202 <--
PRIORITY APPLN. INFO.:			US 1979-8906	19790202
IT 25321-14-6P				
RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of, by nitration of toluene with sulfuric acid- nitric acid, refining of spent acid mixture in)				
RN 25321-14-6 CAPLUS				
CN Benzene, methylidinitro- (CA INDEX NAME)				



D1-Me

2 [ D1-NO<sub>2</sub> ]

OS.CITING REF COUNT: 13 THERE ARE 13 CAPLUS RECORDS THAT CITE THIS RECORD (13 CITINGS)

L18 ANSWER 23 OF 24 CAPLUS COPYRIGHT 2009 ACS on STN

AB Using CH<sub>2</sub>Cl<sub>2</sub> as a solvent in the nitration of aromatic compds. with HNO<sub>3</sub>-H<sub>2</sub>SO<sub>4</sub> (1) made the reaction conditions uniform, (2) extracted undegraded product efficiently without dilution of the nitrating mixture, (3) reduced the consumption of HNO<sub>3</sub>, (4) allowed recycle of H<sub>2</sub>SO<sub>4</sub> with min fortification, and (5) improved the yield. E.g., mononitration of C<sub>6</sub>H<sub>6</sub> without CH<sub>2</sub>Cl<sub>2</sub> required 4 mol excess HNO<sub>3</sub> and gave 98% yield; with CH<sub>2</sub>Cl<sub>2</sub> as solvent only 1 mol excess HNO<sub>3</sub> gave >99% yield. About 18 aromatic compds. including xylene, PhCN, Ph<sub>2</sub>CO, naphthalene, and acenaphthene were mono- or dinitrated by this method. CH<sub>2</sub>Cl<sub>2</sub> was the solvent for preparation of nitronium hydrogen disulfate from HNO<sub>3</sub> and SO<sub>3</sub>.

ACCESSION NUMBER: 1978:6463 CAPLUS  
DOCUMENT NUMBER: 88:6463  
ORIGINAL REFERENCE NO.: 88:1089a,1092a  
TITLE: Synthetic housekeeping - nitration  
AUTHOR(S): Davis, Gary; Cook, Newell  
CORPORATE SOURCE: Res. Dev. Cent., Gen. Electr. Co., Schenectady, NY, USA  
SOURCE: CHEMTECH (1977), 7(10), 626-9  
CODEN: CHTEDD; ISSN: 0009-2703  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
IT 25321-14-6P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)  
RN 25321-14-6 CAPLUS  
CN Benzene, methylidinitro- (CA INDEX NAME)



D1-Me

2 [ D1-NO<sub>2</sub> ]

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD



## (2 CITINGS)

L18 ANSWER 24 OF 24 CAPLUS COPYRIGHT 2009 ACS on STN

AB Aromatic hydrocarbons are treated with HNO<sub>3</sub>-H<sub>2</sub>SO<sub>4</sub> mixts. in emulsions to give nitrated aromatics and the same acid-free nitrated aromatics are added to the emulsions to sep. the nitrated aromatics. Thus, mononitrotoluene is introduced into an apparatus at 100 parts/hr., a mixture containing 70 weight % H<sub>2</sub>SO<sub>4</sub> and 30 weight % HNO<sub>3</sub> introduced at 110 parts/hr., the mixture agitated to give an emulsion, and 14.3 parts acid-free dinitrotoluene added to sep. the emulsion.

ACCESSION NUMBER: 1968:95504 CAPLUS  
 DOCUMENT NUMBER: 68:95504  
 ORIGINAL REFERENCE NO.: 68:18395a,18398a  
 TITLE: Emulsion separation of aromatic nitro compounds  
 INVENTOR(S): Menke, William K.  
 PATENT ASSIGNEE(S): Mobay Chemical Co.  
 SOURCE: U.S., 2 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
	US 3350466		19671031	US 1966-555282	19660606 <--
IT	25321-14-6P				
	RL: PREP (Preparation)				
	(manufacture of, separation from emulsion with nitric and sulfuric acids in)				
RN	25321-14-6 CAPLUS				
CN	Benzene, methylidinitro- (CA INDEX NAME)				



D1-Me

2 [ D1-NO<sub>2</sub> ]

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD  
 (1 CITINGS)

=&gt; e johannes buttner/in

E1 1 JOHANNES ARNO/IN  
 E2 1 JOHANNES BARTH/IN  
 E3 0 --> JOHANNES BUTTNER/IN  
 E4 1 JOHANNES CAROL ADOLF MAZGAREANU/IN  
 E5 3 JOHANNES CHARLES/IN  
 E6 1 JOHANNES CHARLES W/IN  
 E7 1 JOHANNES CONRAD/IN  
 E8 1 JOHANNES DAMHUIS EDUARD HENDRIKUS/IN

E9 1 JOHANNES DANA B JR/IN  
E10 2 JOHANNES DEN BRANDT ADRIANUS H/IN  
E11 1 JOHANNES DERICK RAYMOND/IN  
E12 10 JOHANNES DIETER/IN

=> e buttner johannes/in

E1 1 BUTTNER HENRY F/IN  
E2 1 BUTTNER HILDEGARD/IN  
E3 1 --> BUTTNER JOHANNES/IN  
E4 2 BUTTNER JUSTIN D/IN  
E5 6 BUTTNER KLAUS/IN  
E6 1 BUTTNER MARK D/IN  
E7 3 BUTTNER MARK JEREMY/IN  
E8 2 BUTTNER MARK P/IN  
E9 1 BUTTNER MATHIAS/IN  
E10 1 BUTTNER MAX/IN  
E11 5 BUTTNER PETER/IN  
E12 1 BUTTNER REINER/IN

=> s e3

L19 1 "BUTTNER JOHANNES"/IN

=> e mackenroth wolfgang/in

E1 4 MACKENROTH CHRISTIANE/IN  
E2 1 MACKENROTH JOSEPH R/IN  
E3 28 --> MACKENROTH WOLFGANG/IN  
E4 6 MACKENS UWE/IN  
E5 2 MACKENSEN A W/IN  
E6 2 MACKENSEN ANDREAS/IN  
E7 1 MACKENSEN EDER SUSANNE/IN  
E8 1 MACKENSEN HERBERT/IN  
E9 6 MACKENSEN KLAUS/IN  
E10 1 MACKENSEN OTTO/IN  
E11 1 MACKENSEN WARREN J/IN  
E12 1 MACKENSIE PHILIP W/IN

=> s e3

L20 28 "MACKENROTH WOLFGANG"/IN

=> e hermann heinrich/in

E1 4 HERMANN HARTI/IN  
E2 1 HERMANN HEIDO/IN  
E3 13 --> HERMANN HEINRICH/IN  
E4 1 HERMANN HEINZ/IN  
E5 1 HERMANN HEINZ GUENTER/IN  
E6 7 HERMANN HELMUT/IN  
E7 4 HERMANN HELMUTH/IN  
E8 1 HERMANN HENRY/IN  
E9 2 HERMANN HERBERT/IN  
E10 1 HERMANN HILDEGARD/IN  
E11 2 HERMANN HOLGER/IN  
E12 9 HERMANN HOLGER LARS/IN

=> s e3

L21 13 "HERMANN HEINRICH"/IN

=> e konieczny peter/in

E1 4 KONIECZNY MIECZYSLAW/IN  
E2 2 KONIECZNY PAWEŁ/IN  
E3 4 --> KONIECZNY PETER/IN  
E4 5 KONIECZNY STANISLAW/IN  
E5 5 KONIECZNY TADEUSZ/IN

E6	2	KONIECZNY WILFRIED/IN
E7	1	KONIECZNY WITOLD/IN
E8	1	KONIECZNY ZBIGNIEW/IN
E9	1	KONIECZNY ZENON/IN
E10	1	KONIECZNY ZYGMUNT/IN
E11	1	KONIECZNY PETER/IN
E12	1	KONIECZY DONALD L/IN

```
=> s e3
L22      4 "KONIECZNY PETER"/IN
```

```
=> e gebauer jurgen/in
E1      1      GEBAUER JULIS/IN
E2      6      GEBAUER JURAJ/IN
E3      0 -->   GEBAUER JURGEN/IN
E4      1      GEBAUER K/IN
E5      1      GEBAUER KAREL/IN
E6      12     GEBAUER KARL/IN
E7      1      GEBAUER KATHRIN/IN
E8      15     GEBAUER KLAUS/IN
E9      1      GEBAUER KLAUS HEINRICH/IN
E10     1      GEBAUER KLAUS PETER DIPL ING/IN
E11     11     GEBAUER LUDWIG/IN
E12     1      GEBAUER M/IN
```

```
=> e gebauer j/in
E1      4      GEBAUER HORST/IN
E2      2      GEBAUER INGO/IN
E3      1 -->   GEBAUER J/IN
E4      1      GEBAUER JAN/IN
E5      3      GEBAUER JOZSEF/IN
E6      5      GEBAUER JUERGEN/IN
E7      1      GEBAUER JULIS/IN
E8      6      GEBAUER JURAJ/IN
E9      1      GEBAUER K/IN
E10     1      GEBAUER KAREL/IN
E11     12     GEBAUER KARL/IN
E12     1      GEBAUER KATHRIN/IN
```

```
=> s e5 and e3
      3 "GEBAUER JOZSEF"/IN
      1 "GEBAUER J"/IN
L23    0 "GEBAUER JOZSEF"/IN AND "GEBAUER J"/IN
```

```
=> d his
```

(FILE 'HOME' ENTERED AT 13:12:34 ON 12 AUG 2009)

```
L1      FILE 'CAPLUS' ENTERED AT 13:12:49 ON 12 AUG 2009
      1 S US20080242900/PN
```

FILE 'REGISTRY' ENTERED AT 13:13:10 ON 12 AUG 2009

```
L2      FILE 'CAPLUS' ENTERED AT 13:13:18 ON 12 AUG 2009
      TRA L1 1- RN :      8 TERMS
```

```
L3      FILE 'REGISTRY' ENTERED AT 13:13:18 ON 12 AUG 2009
      8 SEA L2
```

FILE 'CAPLUS' ENTERED AT 13:16:12 ON 12 AUG 2009

FILE 'REGISTRY' ENTERED AT 13:16:19 ON 12 AUG 2009

L4 0 S 121-14-3  
 L5 1 S 121-14-2  
 L6 1 S 606-20-2  
 L7 1 S 25321-14-6  
 L8 1 S 1321-12-6

FILE 'CAPLUS' ENTERED AT 13:17:37 ON 12 AUG 2009

L9 209 S L5/PREP  
 L10 123 S L6/PREP  
 L11 151 S L7/PREP  
 L12 368 S L9 OR L10 OR L11  
 L13 368 DUP REMOV L12 (0 DUPLICATES REMOVED)  
 L14 368 S L13  
 L15 153 S L13 AND L7  
 L16 49 S L15 AND NITRIC  
 L17 32 S L16 AND SULFURIC  
 L18 24 S L17 AND PY<=2005  
 E JOHANNES BUTTNER/IN  
 E BUTTNER JOHANNES/IN  
 L19 1 S E3  
 E MACKENROTH WOLFGANG/IN  
 L20 28 S E3  
 E HERMANN HEINRICH/IN  
 L21 13 S E3  
 E KONIECZNY PETER/IN  
 L22 4 S E3  
 E GEBAUER JURGEN/IN  
 E GEBAUER J/IN  
 L23 0 S E5 AND E3

=> s e5 or e3

3 "GEBAUER JOZSEF"/IN  
 1 "GEBAUER J"/IN  
 L24 4 "GEBAUER JOZSEF"/IN OR "GEBAUER J"/IN

=> s l19 or l20 or l21 or l22 or l24

L25 46 L19 OR L20 OR L21 OR L22 OR L24

=> s l25 and (L5 or l6 or l7)

3338 L5  
 1621 L6  
 1142 L7  
 L26 8 L25 AND (L5 OR L6 OR L7)

=> d l26 abs ibib hitstr l-

YOU HAVE REQUESTED DATA FROM 8 ANSWERS - CONTINUE? Y/(N):y

L26 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2009 ACS on STN

AB The invention relates to a process for treating wastewaters by the nitration of aromatic compds. to give mono-, di- and trinitroaroms. which have a pH of 7-13 by heating the wastewaters to temps. of 150 to 350 °C at a pressure of 10-300 bar to achieve thermolysis, characterized in that, before the heating, the nitroarom. compds. which do not contain a hydroxyl group, dissolved in these wastewaters, are removed from the wastewaters by extraction

ACCESSION NUMBER: 2009:258546 CAPLUS

DOCUMENT NUMBER: 150:289599

TITLE: Process for treating nitration wastewaters

INVENTOR(S): Fritz, Ruediger; Buettner, Johannes; Zoellinger, Michael; Merten, Anne-Kathrin; Hendel, Harald; Hermann, Heinrich; Haendel, Mirko; Gebauer, Hans-Juergen

PATENT ASSIGNEE(S): BASF SE, Germany  
 SOURCE: PCT Int. Appl., 16pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 200902/416	A1	20090305	WO 2008-EP61185	20080827
W:	AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW			
RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			

PRIORITY APPLN. INFO.: EP 2007-115290 A 20070830  
 IT 25321-14-6P, Dinitrotoluene  
 RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); REM (Removal or disposal); PREP (Preparation); PROC (Process) (process for treating nitration wastewaters by stripping followed by thermolysis)  
 RN 25321-14-6 CAPLUS  
 CN Benzene, methylidinitro- (CA INDEX NAME)



D1-Me

2 [ D1-NO<sub>2</sub> ]

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2009 ACS on STN  
 AB A method for manufacture aromatic amines from nitroarom. comprises hydrogenating nitrocompounds in the presence of a catalyst containing 0.01 - 5 weight% an active component such as Ni, Pd and ≥1 other metal such as Co, Fe (or other metals) supported on an activated carbon, carbon black, graphite or metal oxides. Thus, a catalyst containing 0.80 weight% Pd, 13 weight% Ni and 0.93 weight% Sn supported on an activated carbon (Norit SX+) was used for manufacture toluenediamine by hydrogenating dinitrotoluene in a 300 mL reactor at 180° and H<sub>2</sub> pressure 25 bar with selectivity 98.47%.  
 ACCESSION NUMBER: 2008:1397920 CAPLUS

DOCUMENT NUMBER: 149:578105  
 TITLE: Method for producing amines by catalytic hydrogenating nitrocompounds  
 INVENTOR(S): Coelho Tsou, Joana; Schwab, Ekkehard; Kubanek, Petr; Mackenroth, Wolfgang; Oehlenschlaeger, Steffen; Voss, Hartwig; Neto, Samuel  
 PATENT ASSIGNEE(S): Basf Se, Germany  
 SOURCE: PCT Int. Appl., 17pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2008138784	A1	20081120	WO 2008-EP55447	20080505
W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LI, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, BG, KZ, MD, RU, TJ, TM				

PRIORITY APPLN. INFO.: EP 2007-107893 A 20070510  
 IT 25321-14-6, Dinitrotoluene  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (producing aromatic amines by catalytic hydrogenating nitrocompounds)  
 RN 25321-14-6 CAPLUS  
 CN Benzene, methylidinitro- (CA INDEX NAME)



D1-Me

2 [ D1-NO<sub>2</sub> ]

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2009 ACS on STN

AB Aromatic amines are prepared by catalytic hydrogenation of the appropriate nitro compds., e.g., toluene diamine produced by hydrogenation of dinitrotoluene, wherein the hydrogenation catalysts comprise a mixture of platinum, nickel and an addnl. metal and a carrier.

ACCESSION NUMBER: 2007:223999 CAPLUS  
 DOCUMENT NUMBER: 146:276465  
 TITLE: Production of aromatic amines by catalytic

INVENTOR(S): hydrogenation of nitro compounds  
Kubanek, Petr; Schwab, Ekkehard; Van Laar, Frederik;  
Mackenroth, Wolfgang  
PATENT ASSIGNEE(S): BASF A.-G., Germany  
SOURCE: Ger. Offen., 9pp.  
CODEN: GWXXBX  
DOCUMENT TYPE: Patent  
LANGUAGE: German  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 102005041532	A1	20070301	DE 2005-102005041532	20050831
WO 2007025884	A1	20070308	WO 2006-EP65478	20060821
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM EP 1924355 A1 20080528 EP 2006-778285 20060821 R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR JP 2009506091 T 20090212 JP 2008-528464 20060821 CN 101252987 A 20080827 CN 2006-80031556 20080228 US 20080242537 A1 20081002 US 2008-65285 20080229 KR 2008040021 A 20080507 KR 2008-706946 20080321 IN 2008CN01585 A 20081128 IN 2008-CN1585 20080331 PRIORITY APPLN. INFO.: DE 2005-102005041532A 20050831 WO 2006-EP65478 W 20060821				

OTHER SOURCE(S): CASREACT 146:276465  
 IT 25321-14-6, Dinitrotoluene  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (production of aromatic amines by catalytic hydrogenation of nitro compds.)  
 RN 25321-14-6 CAPLUS  
 CN Benzene, methyl dinitro- (CA INDEX NAME)



D1-Me

2 [ D1-NO<sub>2</sub> ]

toluene with nitric acid in the presence of sulfuric acid to give nitrotoluene; (B) separating the reaction product of step (A) into a nitrotoluene-containing organic phase and a sulfuric acid-containing aqueous phase; (C) nitrating the nitrotoluene-containing organic phase with nitric acid in the presence of sulfuric acid to give dinitrotoluene; and (D) separating the reaction product of step (C) into a dinitrotoluene-containing organic phase and a sulfuric acid containing aqueous phase. The reaction product of step (A) contains 3.0-8% of toluene, in relation to the organic phase, and 0.1-1.2% of nitric acid, in relation to the aqueous phase and the phase separation of step (B) is carried out in such a manner that further reaction of toluene with nitric acid is prevented. Process flow diagrams are presented.

ACCESSION NUMBER: 2005:811729 CAPLUS  
DOCUMENT NUMBER: 143:213353  
TITLE: Two-stage nitration method for producing dinitrotoluene from toluene  
INVENTOR(S): Buettner, Johannes; Mackenroth, Wolfgang; Hermann, Heinrich; Konieczny, Peter; Gebauer, Juergen  
PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Germany  
SOURCE: PCT Int. Appl., 23 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: German  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005075407	A1	20050818	WO 2005-EP1017	20050202
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TG, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, NI, TD, TG			
DE 102004005913	A1	20050825	DE 2004-102004005913	20040205
EP 1713756	A1	20061025	EP 2005-701305	20050202
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS			
CN 1918109	A	20070221	CN 2005-80004228	20050202
BR 2005007293	A	20070703	BR 2005-7293	20050202
JP 2007520512	T	20070726	JP 2006-551789	20050202
US 20080242900	A1	20081002	US 2006-586683	20060720
ZA 2006007374	A	20080625	ZA 2006-7374	20060904
KR 2006130203	A	20061218	KR 2006-718074	20060905
IN 2006CN03216	A	20070706	IN 2006-CN3216	20060905
PRIORITY APPLN. INFO.:			DE 2004-102004005913A	20040205
			WO 2005-EP1017	W 20050202

OTHER SOURCE(S): CASREACT 143:213353  
IT 25321-14-6P, Dinitrotoluene  
RL: EPR (Engineering process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)  
(two-stage nitration method for producing dinitrotoluene from toluene)



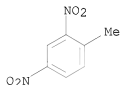
RN 25321-14-6 CAPLUS  
CN Benzene, methyl dinitro- (CA INDEX NAME)



D1-Me

2 [ D1-NO2 ]

IT 121-14-2P, 2,4-Dinitrotoluene 606-20-2P,  
2,6-Dinitrotoluene  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(two-stage nitration method for producing dinitrotoluene from toluene)  
RN 121-14-2 CAPLUS  
CN Benzene, 1-methyl-2,4-dinitro- (CA INDEX NAME)



RN 606-20-2 CAPLUS  
CN Benzene, 2-methyl-1,3-dinitro- (CA INDEX NAME)



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD  
(1 CITINGS)  
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2009 ACS on STN  
AB A method is described for the production of aromatic amines (e.g.,  
diaminotoluenes) from aromatic nitro compds. (e.g., dinitrotoluenes) in the  
presence of supported (e.g., activated carbon) nickel-platinum alloy  
hydrogenation catalysts with the atomic ratio between nickel and platinum in  
the alloy ranging between 30:70 and 70:30, resp.

ACCESSION NUMBER: 2005:371208 CAPLUS  
DOCUMENT NUMBER: 142:431969  
TITLE: Method for the production of aromatic amines from  
aromatic nitro compounds in the presence of supported  
nickel-platinum alloy hydrogenation catalysts

INVENTOR(S): Van Laar, Frederik; Schwab, Ekkehard; Oehlenschlaeger, Steffen; Voss, Hartwig; Mackenroth, Wolfgang; Morgenschweis, Konrad; Penzel, Ulrich; Weidner, Bernd

PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Germany

SOURCE: PCT Int. Appl., 18 pp.  
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005037768	A1	20050428	WO 2004-EP11642	20041015
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10349095	A1	20050519	DE 2003-10349095	20031017
EP 1678118	A1	20060712	EP 2004-790484	20041015
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
CN 1867538	A	20061122	CN 2004-80030516	20041015
CN 100364957	C	20080130		
JP 2007508348	T	20070405	JP 2006-534705	20041015
US 20070149814	A1	20070628	US 2006-575924	20060414
KR 2007007762	A	20070116	KR 2006-708988	20060509
US 20080177111	A1	20080724	US 2008-57617	20080328
US 7468461	B2	20081223		
PRIORITY APPLN. INFO.:			DE 2003-10349095	A 20031017
			WO 2004-EP11642	W 20041015
			US 2006-575924	A3 20060414

OTHER SOURCE(S): CASREACT 142:431969

IT 25321-14-6, Dinitrotoluene

RL: RCT (Reactant); RACT (Reactant or reagent)  
(method for production of aromatic amines from aromatic nitro compds. in presence of supported nickel-platinum alloy hydrogenation catalysts)

RN 25321-14-6 CAPLUS

CN Benzene, methyldinitro- (CA INDEX NAME)



D1-Me

2 [ D1-NO<sub>2</sub> ]

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2009 ACS on STN

AB The invention relates to a method for producing amines by catalytically hydrogenating nitroaroms. and then separating the catalysts from the reaction mixture containing at least one aromatic amine and water. According to the inventive method, the catalysts are separated by means of membrane filtration which is carried out at a pressure of 5 to 50 bar on the side of the suspension, a difference in pressure between the side of the suspension and the side of the permeate of at least 0.3 bar, and a flow rate of 1 to 6 m/s on the side of the suspension.

ACCESSION NUMBER: 2003:633639 CAPLUS

DOCUMENT NUMBER: 139:179876

TITLE: Catalyst separation in the production of aromatic amines

INVENTOR(S): Vanoppen, Dominic; Schwab, Ekkehard; Van Laar, Frederik; Voss, Hartwig; Oehlschlaeger, Steffen; Mackenroth, Wolfgang; Morgenschweis, Konrad; Penzel, Ulrich; Weidner, Bernd

PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Germany

SOURCE: PCT Int. Appl., 19 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

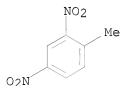
LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003066571	A1	20030814	WO 2003-EP924	20030130
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003218967	A1	20030902	AU 2003-218967	20030130
EP 1474378	A1	20041110	EP 2003-714720	20030130
EP 1474378	B1	20050907		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1628091	A	20050615	CN 2003-803309	20030130

CN 1312108 C 20070425  
 AT 303984 T 20050915 AT 2003-714720 20030130  
 JP 2006508017 T 20060309 JP 2003-565946 20030130  
 US 20050177003 A1 20050811 US 2004-500862 20040720  
 US 7091383 B2 20060815  
 PRIORITY APPLN. INFO.: DE 2002-10204700 A 20020206  
 WO 2003-EP924 W 20030130  
 OTHER SOURCE(S): CASREACT 139:179876  
 IT 121-14-2, 2,4-Dinitrotoluene  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (catalyst separation in the production of aromatic amines)  
 RN 121-14-2 CAPLUS  
 CN Benzene, 1-methyl-2,4-dinitro- (CA INDEX NAME)



REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2009 ACS on STN  
 AB Aromatic nitro compds. in wastewaters are decomposed at pH 7-14 and  
 150-350° at 10-300 bar when ≥1 of the nitro compds. does not  
 have a hydroxyl group on the aromatic ring. The method is suitable for  
 treating wastewaters from manufacture of nitrobenzene, nitrotoluene, and  
 dinitrotoluene.

ACCESSION NUMBER: 1999:667832 CAPLUS  
 DOCUMENT NUMBER: 131:262071  
 TITLE: Method for decomposition of aromatic nitro compounds  
 in wastewaters  
 INVENTOR(S): Papkalla, Thomas; Baur, Karl Gerhard; Langensiepen,  
 Hans-Werner; Mackenroth, Wolfgang  
 PATENT ASSIGNEE(S): BASF A.-G., Germany  
 SOURCE: Ger. Offen., 6 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19815844	A1	19991014	DE 1998-19815844	19980408
EP 953546	A2	19991103	EP 1999-106138	19990406
EP 953546	A3	20000202		
EP 953546	B1	20040922		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 11319800	A	19991124	JP 1999-98946	19990406
CN 1231997	A	19991020	CN 1999-106294	19990408
CN 1170776	C	20041013		

PRIORITY APPLN. INFO.: DE 1998-19815844 A 19980408  
 IT 25321-14-6, Dinitrotoluene  
 RL: MSC (Miscellaneous); REM (Removal or disposal); PROC (Process)  
 (method for decomposition of aromatic nitro compds. in wastewaters)  
 RN 25321-14-6 CAPLUS

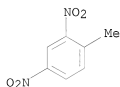
CN Benzene, methyl-dinitro- (CA INDEX NAME)



D1-Me

2 [ D1-NO2 ]

IT 121-14-2, 2,4-Dinitrotoluene 606-20-2,  
2,6-Dinitrotoluene  
RL: REM (Removal or disposal); PROC (Process)  
(method for decomposition of aromatic nitro compds. in wastewaters)  
RN 121-14-2 CAPLUS  
CN Benzene, 1-methyl-2,4-dinitro- (CA INDEX NAME)



RN 606-20-2 CAPLUS  
CN Benzene, 2-methyl-1,3-dinitro- (CA INDEX NAME)



OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD  
(2 CITINGS)  
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2009 ACS on STN  
AB Crude dinitrotoluene from nitration of toluene or mononitrotoluene, after  
separation of nitrating acid, is extracted with a countercurrent stream of  
dilute aqueous  
solution of HNO3, H2SO4 and HNO2 in a multistage process where the volume ratio  
of dinitrotoluene to aqueous solution is 1:3 to 10:1, and the aqueous extract  
is  
recycled to the nitrating process, directly or after concentration (e.g., to  
65%  
HNO3). Approx. 98% of the HNO3 and HNO2 in the crude dinitrotoluene are  
removed.  
ACCESSION NUMBER: 1996:676109 CAPLUS

DOCUMENT NUMBER: 125:304516  
ORIGINAL REFERENCE NO.: 125:56913a,56916a  
TITLE: Nitric acid, sulfuric acid and nitrous acid removal, recovery and recycling in nitrating of toluene or mononitrotoluene  
INVENTOR(S): Hermann, Heinrich; Gebauer, Juergen  
PATENT ASSIGNEE(S): Josef Meissner GmbH & Co., Germany  
SOURCE: Eur. Pat. Appl., 6 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: German  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 736514	A1	19961009	EP 1996-104233	19960316
EP 736514	B1	20010620		
R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, PT, SE				
DE 19512114	A1	19961010	DE 1995-19512114	19950404
DE 19512114	C2	20000427		
US 5756867	A	19980526	US 1995-529100	19950915
AT 202333	T	20010715	AT 1996-104233	19960316
IN 187139	A1	20020209	IN 1996-CA475	19960318
CA 2173381	A1	19961005	CA 1996-2173381	19960403
CA 2173381	C	20070626		
CN 1145893	A	19970326	CN 1996-105960	19960403
CN 1085656	C	20020529		
PL 187688	B1	20040930	PL 1996-313631	19960404
PRIORITY APPLN. INFO.: IT 25321-14-6P, Dinitrotoluene RL: IMF (Industrial manufacture); PUR (Purification or recovery); PREP (Preparation) (nitric acid, sulfuric acid and nitrous acid removal, recovery and recycling in nitrating of toluene or mononitrotoluene) RN 25321-14-6 CAPLUS CN Benzene, methyldinitro- (CA INDEX NAME)				



D1-Me

2 [ D1-NO<sub>2</sub> ]

OS.CITING REF COUNT: 8 THERE ARE 8 CAPLUS RECORDS THAT CITE THIS RECORD (8 CITINGS)

=> end

ALL L# QUERIES AND ANSWER SETS ARE DELETED AT LOGOFF  
LOGOFF? (Y)/N/HOLD:y

(FILE 'HOME' ENTERED AT 13:12:34 ON 12 AUG 2009)

L1 FILE 'CAPLUS' ENTERED AT 13:12:49 ON 12 AUG 2009  
 1 SEA FILE=CAPLUS SPE=ON PLU=ON US20080242900/PN  
 D  
 FILE 'REGISTRY' ENTERED AT 13:13:10 ON 12 AUG 2009  
 L2 FILE 'CAPLUS' ENTERED AT 13:13:18 ON 12 AUG 2009  
 TRA PLU=ON L1 1- RN : 8 TERMS  
 L3 FILE 'REGISTRY' ENTERED AT 13:13:18 ON 12 AUG 2009  
 8 SEA FILE=REGISTRY SPE=ON PLU=ON L2  
 D L3  
 D L3 1-  
 FILE 'CAPLUS' ENTERED AT 13:16:12 ON 12 AUG 2009  
 FILE 'REGISTRY' ENTERED AT 13:16:19 ON 12 AUG 2009  
 L4 0 SEA FILE=REGISTRY SPE=ON PLU=ON 121-14-3  
 L5 1 SEA FILE=REGISTRY SPE=ON PLU=ON 121-14-2  
 D  
 L6 1 SEA FILE=REGISTRY SPE=ON PLU=ON 606-20-2  
 D  
 L7 1 SEA FILE=REGISTRY SPE=ON PLU=ON 25321-14-6  
 D  
 L8 1 SEA FILE=REGISTRY SPE=ON PLU=ON 1321-12-6  
 D  
 FILE 'CAPLUS' ENTERED AT 13:17:37 ON 12 AUG 2009  
 L9 209 SEA FILE=CAPLUS SPE=ON PLU=ON L5/PREP  
 L10 123 SEA FILE=CAPLUS SPE=ON PLU=ON L6/PREP  
 L11 151 SEA FILE=CAPLUS SPE=ON PLU=ON L7/PREP  
 L12 368 SEA FILE=CAPLUS SPE=ON PLU=ON L9 OR L10 OR L11  
 L13 368 DUP REMOV L12 (0 DUPLICATES REMOVED)  
 L\*\*\* DEL 368 S L9 OR L10 OR L11  
 L\*\*\* DEL 368 S L9 OR L10 OR L11  
 L14 368 SEA FILE=CAPLUS L13  
 L15 153 SEA FILE=CAPLUS SPE=ON PLU=ON L14 AND L7  
 L16 49 SEA FILE=CAPLUS SPE=ON PLU=ON L15 AND NITRIC  
 L17 32 SEA FILE=CAPLUS SPE=ON PLU=ON L16 AND SULFURIC  
 L18 24 SEA FILE=CAPLUS SPE=ON PLU=ON L17 AND PY<=2005  
 D L18 ABS IBIB HITSTR 1-  
 E JOHANNES BUTTNER/IN  
 E BUTTNER JOHANNES/IN  
 L19 1 SEA FILE=CAPLUS SPE=ON PLU=ON "BUTTNER JOHANNES"/IN  
 E MACKENROTH WOLFGANG/IN  
 L20 28 SEA FILE=CAPLUS SPE=ON PLU=ON "MACKENROTH WOLFGANG"/IN  
 E HERMANN HEINRICH/IN  
 L21 13 SEA FILE=CAPLUS SPE=ON PLU=ON "HERMANN HEINRICH"/IN  
 E KONIECZNY PETER/IN  
 L22 4 SEA FILE=CAPLUS SPE=ON PLU=ON "KONIECZNY PETER"/IN  
 E GEBAUER JURGEN/IN  
 E GEBAUER J/IN  
 L23 0 SEA FILE=CAPLUS SPE=ON PLU=ON "GEBAUER JOZSEF"/IN AND  
 "GEBAUER J"/IN  
 L24 4 SEA FILE=CAPLUS SPE=ON PLU=ON "GEBAUER JOZSEF"/IN OR  
 "GEBAUER J"/IN  
 L25 46 SEA FILE=CAPLUS SPE=ON PLU=ON L19 OR L20 OR L21 OR L22 OR  
 L24  
 L26 8 SEA FILE=CAPLUS SPE=ON PLU=ON L25 AND (L5 OR L6 OR L7)  
 D L26 ABS IBIB HITSTR 1-  
 COST IN U.S. DOLLARS SINCE FILE TOTAL

FULL ESTIMATED COST	ENTRY 218.34	SESSION 273.99
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-26.24	-26.24

STN INTERNATIONAL LOGOFF AT 13:25:38 ON 12 AUG 2009